

Feb. 13–16, 2024
Denver, Colorado

Electronic Materials and Applications 2024 (EMA 2024)

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Session Information							
SESSION TITLE: Plenary Session: Towards sub-THz telecommunication: Advantages with ultra-low permittivity dielectrics							
SESSION ABBREVIATION:							
SESSION TYPE: Plenary							
SESSION START TIME: Wed 2/14/2024 8:15 AM							
SESSION DURATION: 75							
SESSION LOCATION: Colorado E							
SESSION HOST: Chair: Mina Yoon							
Chair: Matjaz Spreitzer							
SESSION CREATOR: McCurdy, Karen							
SESSION TOPIC: Plenary Sessions							
CLIENT SESSION ID: 202							
SESSION NOTES TO ADMIN: Wednesday, February 14, 2024; 8:15 - 9:30 a.m.							
Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1			Opening remarks			8:15 AM 8:30 AM	
2	<u>3982401</u>	EMA- PLEN 01- 001-2024	Towards sub-THz telecommunication: Advantages with ultra-low permittivity dielectrics	Jantunen, Heli	Plenary	8:30 AM 9:30 AM	Accepted (12/15/2023)

Session Information							
SESSION TITLE: Joint Symposium 2 and 10: Ferroic Thin Films 1							
SESSION ABBREVIATION:							
SESSION TYPE: Oral							
SESSION START TIME: Wed 2/14/2024 10:00 AM							
SESSION DURATION: 120							
SESSION LOCATION: Colorado D							
SESSION HOST: Chair: Aiping Chen Chair: Binod Paudel							
SESSION CREATOR: Chen, Aiping							
SESSION TOPIC: S2 Advanced Microelectronics							
CLIENT SESSION ID: 204							
SESSION NOTES TO ADMIN: February 14, 2024; 10:00 -12 p.m.							
Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	3982439	EMA- Joint S2 and S10-001-2024	Ferroelectric switching kinetics in epitaxial ferroelectric thin films	Heron, John	Invited (by Invitation Only)	10:00 AM 10:30 AM	Accepted (12/09/2023)
2	3979971	EMA- Joint S2 and S10-002-2024	Self-assembled Vertical Nanopillars in Oxide Thin Films: A Material Platform for Giant Piezoelectricity and Synaptic Electronics	Liu, Huajun	Invited (by Invitation Only)	10:30 AM 11:00 AM	Accepted (12/08/2023)
3	4000069	EMA- Joint S2 and S10-025-2024	Questions Answered and Still Outstanding Regarding the Ferroelectric Performance of Hafnia	Ihlefeld, Jon	Invited (by Invitation Only)	11:00 AM 11:30 AM	Accepted (1/03/2024)
4	3985668	EMA- Joint S2 and S10-003-2024	Synthesis and optoelectronic properties of wurtzite Al _{1-x} Gd _x N heterostructural alloys	Yazawa, Keisuke	Contributed (Oral)	11:30 AM 11:45 AM	Accepted (12/12/2023)
5	3986193	EMA- Joint S2 and S10-004-2024	New Polarization Switching Mechanisms in Al _{1-x} M _x N (M = Sc, B, La, Gd) Alloys	Lee, Cheng-Wei	Contributed (Oral)	11:45 AM 12:00 PM	Accepted (12/11/2023)

Session Information

SESSION TITLE: Joint Symposium 2 and 10: Neuromorphic computing - I

SESSION ABBREVIATION:

SESSION TYPE: Oral

SESSION START TIME: Wed 2/14/2024 10:00 AM

SESSION DURATION: 150

SESSION LOCATION: Colorado G

SESSION HOST: Chair: Petro Maksymovych

SESSION CREATOR: McCurdy, Karen

SESSION TOPIC: S10 Fundamental mechanisms in materials for next-generation computing devices

CLIENT SESSION ID: 206

SESSION NOTES TO ADMIN: Wednesday, February 14, 2024; 10 a.m. - 12:30 p.m.

Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	<u>3984690</u>	EMA-Joint S2 and S10-005-2024	Transforming Nanoelectronics with Volatile Memristors	Aziz, Ahmedullah	Invited (by Invitation Only)	10:00 AM 10:30 AM	Accepted (12/08/2023)
2	<u>3985752</u>	EMA-Joint S2 and S10-006-2024	Volatile and Non-Volatile Resistive Switching in VO ₂ /La _{0.7} Sr _{0.3} MnO ₃ /Al ₂ O ₃ (0001) for Neuromorphic Computing	Kunwar, Sundar	Contributed (Oral)	10:30 AM 10:45 AM	Accepted (12/12/2023)
3	<u>3986558</u>	EMA-Joint S2 and S10-007-2024	Metal-Oxide NeoHebbian Synapses for Scalable Learning	Strukov, Dmitri	Invited (by Invitation Only)	10:45 AM 11:15 AM	Accepted (12/09/2023)
4	<u>3982718</u>	EMA-Joint S2 and S10-008-2024	Variation-Aware FeFET-Based In-Memory Computing Leveraging Probabilistic Deep Learning	Manna, Bibhas	Contributed (Oral)	11:15 AM 11:30 AM	Accepted (12/12/2023)
5	<u>3984752</u>	EMA-Joint S2 and S10-009-2024	High-precision analog computing with memristors	Yang, Joshua	Invited (by Invitation Only)	11:30 AM 12:00 PM	Accepted (12/08/2023)
6	<u>3986290</u>	EMA-Joint S2 and S10-010-2024	Computing with ions: The journey from batteries to dynamically reconfigurable adaptive architectures	Talin, A.	Invited (by Invitation Only)	12:00 PM 12:30 PM	Accepted (12/12/2023)

Session Information

SESSION TITLE: Symposium 11 – In-situ neutron scattering in the study of batteries and nanocatalysts

SESSION ABBREVIATION:

SESSION TYPE: Oral

SESSION START TIME: Wed 2/14/2024 10:00 AM

SESSION DURATION: 120

SESSION LOCATION: Colorado C

SESSION HOST: Chair: Alessandro Mazza

SESSION CREATOR: McCurdy, Karen

SESSION TOPIC: S11 In-situ/Operando characterization of nanomaterials

CLIENT SESSION ID: 208

SESSION NOTES TO ADMIN: Wednesday, February 14, 2024; 10 a.m. - 12 p.m.

Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	<u>3968315</u>	EMA-S11-001-2024	Nanoscale In-Operando Characterization of Buried Interface Structures in Batteries and Related Material Using Neutron Reflectometry	Dura, Joseph	Invited (by Invitation Only)	10:00 AM 10:30 AM	Accepted (11/27/2023)
2	<u>3981038</u>	EMA-S11-002-2024	Time-resolved neutron reflectometry study of lithium-mediated nitrogen reduction	Doucet, Mathieu	Invited (by Invitation Only)	10:30 AM 11:00 AM	Accepted (11/27/2023)
3	<u>3983905</u>	EMA-S11-003-2024	Polarized Neutron Reflectivity Under Pressure and Other Stimuli	Charlton, Timothy	Invited (by Invitation Only)	11:00 AM 11:30 AM	Accepted (11/27/2023)
4	<u>3985620</u>	EMA-S11-004-2024	Operando neutron total scattering studies of compositionally complex defect fluorite nanocatalysts	Page, Katharine	Invited (by Invitation Only)	11:30 AM 12:00 PM	Accepted (12/15/2023)

Session Information							
SESSION TITLE: Symposium 12: Superconductivity Session I							
SESSION ABBREVIATION:							
SESSION TYPE: Oral							
SESSION START TIME: Wed 2/14/2024 10:00 AM							
SESSION DURATION: 105							
SESSION LOCATION: Colorado A							
SESSION HOST: Chair: Jiamian Hu							
Chair: Sara Mills							
SESSION CREATOR: Mills, Sara							
SESSION TOPIC: S12 Magnetic and superconducting materials: From Basic Science to Applications							
CLIENT SESSION ID: 210							
SESSION NOTES TO ADMIN: Wednesday, February 14, 2024; 10 a.m. -11:45 a.m.							
Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	3982193	EMA-S12-001-2024	Machine learning and first-principles simulations of BCS superconductors	Chen, Cheng-Chien	Invited (by Invitation Only)	10:00 AM 10:30 AM	Accepted (12/05/2023)
2	3985721	EMA-S12-002-2024	Multiple Intercalation Stages and Universal Superconducting Tc Enhancement through Polar Organic Species Intercalation into van der Waals Materials	Lv, Bing	Invited (by Invitation Only)	10:30 AM 11:00 AM	Accepted (12/18/2023)
3	4011768	EMA-S12-003-2024	Distance-Dependent Evolution of Electronic States in Kagome-Honeycomb Lateral Heterostructures in FeSn	Kang, Seoung-Hun	Contributed (Oral)	11:00 AM 11:15 AM	Accepted (12/14/2023)
4	3986466	EMA-S12-004-2024	Understanding phase transitions in correlated quantum materials	Ganesh, Panchapakesan	Invited (by Invitation Only)	11:15 AM 11:45 AM	Accepted (12/05/2023)

Session Information

SESSION TITLE: Symposium 13: Frontiers in ferroic oxides: Synthesis, properties and applications

SESSION ABBREVIATION:

SESSION TYPE: Oral

SESSION START TIME: Wed 2/14/2024 10:00 AM

SESSION DURATION: 150

SESSION LOCATION: Colorado I

SESSION HOST: Chair: Kyle Shen

SESSION CREATOR: McCurdy, Karen

SESSION TOPIC: S13 Frontiers in Ferroic oxides: Synthesis, properties, and applications

CLIENT SESSION ID: 212

SESSION NOTES TO ADMIN: Wednesday, February 14, 2023; 10 a.m. - 12:30 p.m.

Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	<u>3984826</u>	EMA-S13-001-2024	Magnetic structure in Colossal Magneto resistance in pure and Ge-doped $\text{Mn}_3\text{Si}_2\text{Te}_6$	Ye, Feng	Invited (by Invitation Only)	10:00 AM 10:30 AM	Accepted (11/21/2023)
2	<u>3981371</u>	EMA-S13-002-2024	Towards the realization of Kitaev Quantum Spin Liquid State in 4d and 5d Honeycomb Magnets and beyond	Takagi, Hidenori	Invited (by Invitation Only)	10:30 AM 11:00 AM	Accepted (11/21/2023)
3	<u>3985288</u>	EMA-S13-003-2024	Elastically tunable emergent magnetic state in Sr_2IrO_4 by strain	Pandey, Shashi	Contributed (Oral)	11:00 AM 11:15 AM	Accepted (11/21/2023)
4	<u>3986017</u>	EMA-S13-004-2024	Magnetic Scattering and Spectroscopy at High Pressures at APS and APS-U	Haskel, Daniel	Invited (by Invitation Only)	11:15 AM 11:45 AM	Accepted (12/07/2023)
5	<u>3978733</u>	EMA-S13-005-2024	Design, synthesis, and symmetry-dependent properties of ferroaxial materials	Kimura, Tsuyoshi	Invited (by Invitation Only)	11:45 AM 12:15 PM	Accepted (11/20/2023)
6	<u>4002816</u>	EMA-S13-006-2024	Direct Nanovolumetric Investigation of Domain Walls and Grain Boundaries in ErMnO_3	Huey, Bryan	Contributed (Oral)	12:15 PM 12:30 PM	Accepted (12/05/2023)

Session Information

SESSION TITLE: Symposium 14-Emerging semiconductor materials and interfaces

SESSION ABBREVIATION:

SESSION TYPE: Oral

SESSION START TIME: Wed 2/14/2024 10:00 AM

SESSION DURATION: 150

SESSION LOCATION: Colorado J

SESSION HOST: Chair: Hari Nair

SESSION CREATOR: McCurdy, Karen

SESSION TOPIC: S14 Emerging semiconductor materials and interfaces

CLIENT SESSION ID: 214

SESSION NOTES TO ADMIN: Wednesday, February 14, 2024; 10 a.m. - 12:30 p.m.

Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	<u>3992321</u>	EMA-S14-001-2024	Doping the Undopable: Hybrid Molecular Beam Epitaxy Growth of Ultrawide Bandgap Oxides	Jalan, Bharat	Invited (by Invitation Only)	10:00 AM 10:30 AM	Accepted (12/06/2023)
2	<u>4011749</u>	EMA-S14-002-2024	Gallium Oxide and its Heterogenous Integration	Pomeroy, James	Invited (by Invitation Only)	10:30 AM 11:00 AM	Accepted (2/08/2024)
3	<u>4012670</u>	EMA-S14-003-2024	Gallium Oxide Wafer Technology for Power Device Applications	Kuramata, Akito	Invited (by Invitation Only)	11:00 AM 11:30 AM	Accepted (12/12/2023)
4	<u>4013740</u>	EMA-S14-004-2024	Homoepitaxial Metalorganic Vapor Phase Epitaxy Growth of (010) β -Ga ₂ O ₃ Films For Lateral and Vertical Power Devices	Krishnamoorthy, Sriram	Invited (by Invitation Only)	11:30 AM 12:00 PM	Accepted (12/08/2023)
5	<u>3987303</u>	EMA-S14-005-2024	Imaging moiré exctions via the low-loss electron energy loss spectroscopy	Susarla, Sandhya	Invited (by Invitation Only)	12:00 PM 12:30 PM	Accepted (12/13/2023)

Session Information

SESSION TITLE: Symposium 15: Materials, Devices, and Applications in 6G

SESSION ABBREVIATION:

SESSION TYPE: Oral

SESSION START TIME: Wed 2/14/2024 10:00 AM

SESSION DURATION: 150

SESSION LOCATION: Colorado H

SESSION HOST: Chair: Nate Orloff
Chair: Lucas Enright

SESSION CREATOR: Orloff, Nate

SESSION TOPIC: S15 Electronics Materials for 5G/6G Applications

CLIENT SESSION ID: 216

SESSION NOTES TO ADMIN: Wednesday, February 14, 2024, 10 a.m. - 12:30 p.m.

Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	4001098	EMA-S15-001-2024	Introduction to session S15 – Electronics Materials for 5G/6G Applications	Orloff, Nate	Contributed (Oral)	10:00 AM 10:15 AM	Accepted (12/19/2023)
2	3997873	EMA-S15-002-2024	Glass as a Dielectric Material for 5G Interconnect and Quantum Transducer Packages	Lanagan, Michael	Invited (by Invitation Only)	10:15 AM 10:45 AM	Accepted (12/11/2023)
3	3982639	EMA-S15-003-2024	Enabling Thin Glass for High Frequency Electronic Applications	Levy, David	Invited (by Invitation Only)	10:45 AM 11:15 AM	Accepted (12/06/2023)
4	3981050	EMA-S15-004-2024	Glass substrates in GHz electronics: How to provide reliable material data for accurate field simulations?	Letz, Martin	Invited (by Invitation Only)	11:15 AM 11:45 AM	Accepted (12/19/2023)
5	4001601	EMA-S15-005-2024	Comparing resonant cavity and on-wafer measurements of the complex permittivity of fused silica to 110 GHz	Enright, Lucas	Contributed (Oral)	11:45 AM 12:00 PM	Accepted (11/30/2023)
6	3983206	EMA-S15-006-2024	Measuring out-of-plane permittivity of dielectric thin films in the millimeter-wave range	Freed, Samuel	Contributed (Oral)	12:00 PM 12:15 PM	Accepted (12/05/2023)
7	3982378	EMA-S15-007-2024	Polymer Coated Ceramic Powders for Electronics Applications	Grabowski, Christopher	Contributed (Oral)	12:15 PM 12:30 PM	Accepted (12/04/2023)

Session Information

SESSION TITLE: Symposium 3- Advanced electronic materials: Processing, structures, properties, and applications

SESSION ABBREVIATION:

SESSION TYPE: Oral

SESSION START TIME: Wed 2/14/2024 10:00 AM

SESSION DURATION: 150

SESSION LOCATION: Colorado E

SESSION HOST: Chair: Hana Uršič

SESSION CREATOR: McCurdy, Karen

SESSION TOPIC: S3 Advanced electronic materials: Processing and structures and properties and applications

CLIENT SESSION ID: 218

SESSION NOTES TO ADMIN: Wednesday, February 14, 2024; 10 a.m. - 12:30 p.m.

Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	<u>4001100</u>	EMA-S3-001-2024	Improving equivalent circuit models of interdigitated capacitors	Jungwirth, Nicholas	Invited (by Invitation Only)	10:00 AM 10:30 AM	Accepted (12/21/2023)
2	<u>3981341</u>	EMA-S3-002-2024	Antiferroelectric-like Tetragonal Tungsten Bronzes for Capacitor Applications	McMahon, Kerry	Contributed (Oral)	10:30 AM 10:45 AM	Accepted (12/11/2023)
3	<u>3986371</u>	EMA-S3-003-2024	New horizons for the electrocaloric cooling	Kovacova, Veronika	Invited (by Invitation Only)	10:45 AM 11:15 AM	Accepted (12/12/2023)
4	<u>3985828</u>	EMA-S3-004-2024	Coercive field and leakage current trends in Sc and B co-substituted AlN thin films	Hayden, John	Contributed (Oral)	11:15 AM 11:30 AM	Accepted (12/21/2023)
5	<u>3986018</u>	EMA-S3-005-2024	Pressure and Electric Field Induced Domain Switching Mechanisms for Epitaxial & Polycrystalline Ferroelectric Thin films	Lizu, K M Abu Hurayra	Contributed (Oral)	11:30 AM 11:45 AM	Accepted (12/11/2023)
6	<u>4000621</u>	EMA-S3-006-2024	Wurtzite Ferroelectric Heterostructures in Oxide and Nitride Systems	Skidmore, Chloe	Contributed (Oral)	11:45 AM 12:00 PM	Accepted (12/14/2023)
7	<u>3983811</u>	EMA-S3-007-2024	Pb(Fe _{0.5} Nb _{0.5})O ₃ -BiFeO ₃ bulk ceramics and screen-printed films for energy storage applications	Goričan, Ivana	Contributed (Oral)	12:00 PM 12:15 PM	Accepted (12/11/2023)
8	<u>3985572</u>	EMA-S3-008-2024	Exploration of magnetron sputtered κ-Ga ₂ O ₃ for ferroelectricity	Fortier, Emilee	Contributed (Oral)	12:15 PM 12:30 PM	Accepted (1/16/2024)

Session Information

SESSION TITLE: Symposium 4: Controlled synthesis of complex oxide thin films

SESSION ABBREVIATION: S4-a

SESSION TYPE: Oral

SESSION START TIME: Wed 2/14/2024 10:00 AM

SESSION DURATION: 150

SESSION LOCATION: Colorado B

SESSION HOST: Chair: Yingge Du
Chair: Divine Kumah

SESSION CREATOR: Jeen, Hyoungjeen

SESSION TOPIC: S4 Complex Oxide Thin Films & Heterostruct - From Synthesis to Strain/Interface-eng
Emergent Prop

CLIENT SESSION ID: 220

SESSION NOTES TO ADMIN: Wednesday, February 14, 2024; 10 a.m. - 12:30 p.m.

Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	3983376	EMA-S4-001-2024	Formation and transport of interfacial charges for neuromorphic microchips	Lee, Ho Nyung	Invited (by Invitation Only)	10:00 AM 10:30 AM	Accepted (11/16/2023)
2	3983157	EMA-S4-002-2024	Enhanced Performance of CeO ₂ -Based Memristors Through Integration with Co-CeO ₂ Vertically Aligned Nanocomposite Thin Film for Neuromorphic Computing	Hu, Zedong	Contributed (Oral)	10:30 AM 10:45 AM	Accepted (11/16/2023)
3	3998724	EMA-S4-003-2024	Resolving the Isopolar Interface of LaNiO ₃ /LaFeO ₃ Superlattices	Wang, Le	Contributed (Oral)	10:45 AM 11:00 AM	Accepted (11/16/2023)
4	3985243	EMA-S4-004-2024	Epitaxial stabilization of strontium germanates thin films by suboxide molecular-beam epitaxy	Paik, Hanjong	Invited (by Invitation Only)	11:00 AM 11:30 AM	Accepted (11/16/2023)
5	4005491	EMA-S4-005-2024	SrTiO ₃ Passivation of Silicon Photocathode for Solar Water Splitting	Spreitzer, Matjaz	Contributed (Oral)	11:30 AM 11:45 AM	Accepted (12/11/2023)
6	3982554	EMA-S4-006-2024	Composition-driven structural and dielectric transitions in epitaxial (1-x)PbMg _{1/3} Nb _{2/3} O ₃ -(x)PbZrO ₃ thin films	Pamula, Sreekeerthi	Contributed (Oral)	11:45 AM 12:00 PM	Accepted (11/16/2023)
7	3981300	EMA-S4-007-2024	Antiferroelectric thin films with exotic polarization switching and abnormally high electromechanical response	Pan, Hao	Invited (by Invitation Only)	12:00 PM 12:30 PM	Accepted (11/16/2023)

Session Information

SESSION TITLE: Joint Symposium 2 and 10: Emerging materials for future computing architectures

SESSION ABBREVIATION:

SESSION TYPE: Oral

SESSION START TIME: Wed 2/14/2024 2:00 PM

SESSION DURATION: 180

SESSION LOCATION: Colorado G

SESSION HOST: Chair: Yiyang Li

SESSION CREATOR: McCurdy, Karen

SESSION TOPIC: S10 Fundamental mechanisms in materials for next-generation computing devices

CLIENT SESSION ID: 222

SESSION NOTES TO ADMIN: Wednesday, February 14, 2024; 2 - 5 p.m.

Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	3980116	EMA-Joint S2 and S10-011-2024	Large second harmonic generation in 2D metal thiophosphates	Susner, Michael	Invited (by Invitation Only)	2:00 PM 2:30 PM	Accepted (12/08/2023)
2	3986545	EMA-Joint S2 and S10-012-2024	Harnessing Electron Correlations and Anharmonicity for Energy Efficient Computing	Ganesh, Panchapakesan	Invited (by Invitation Only)	2:30 PM 3:00 PM	Accepted (12/12/2023)
3	3983152	EMA-Joint S2 and S10-013-2024	Probing nanoscale electrical memory effects in multi-well ferroelectrics and 2D semiconductors	Neumayer, Sabine	Invited (by Invitation Only)	3:00 PM 3:30 PM	Accepted (12/18/2023)
4			Break			3:30 PM 4:00 PM	
5	3985780	EMA-Joint S2 and S10-014-2024	Deterministic activation of resistive switching and light emission from TaOx with nanoscale resolution	Popova, Olha	Contributed (Oral)	4:00 PM 4:15 PM	Accepted (12/19/2023)
6	4000289	EMA-Joint S2 and S10-015-2024	Atomic Structure Transformations of C-Doped Ge ₂ Sb ₂ Te ₅ Thin Films Using <i>In-Situ</i> X-Ray Scattering and Spectroscopy	Butala, Megan	Invited (by Invitation Only)	4:15 PM 4:45 PM	Accepted (12/08/2023)
7	3983288	EMA-Joint S2 and S10-016-2024	Comparative Analysis of Gate-All-Around Nanowire Field Effect Transistor for Future Sensors Using Non-Equilibrium Green's Function	Saini, Suruchi	Contributed (Oral)	4:45 PM 5:00 PM	Accepted (12/08/2023)

Session Information							
SESSION TITLE: Joint Symposium 2 and 10: Ferroic Thin Films 2							
SESSION ABBREVIATION:							
SESSION TYPE: Oral							
SESSION START TIME: Wed 2/14/2024 2:00 PM							
SESSION DURATION: 75							
SESSION LOCATION: Colorado D							
SESSION HOST: Chair: Huajun Liu							
Chair: Nicholas Cucciniello							
SESSION CREATOR: Chen, Aiping							
SESSION TOPIC: S2 Advanced Microelectronics							
CLIENT SESSION ID: 224							
SESSION NOTES TO ADMIN: February 14, 2024; 2 - 3:15 p.m.							
Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	<u>3992497</u>	EMA-Joint S2 and S10-020-2024	High Operating Temperature (HOT) Memory based on Ferroelectric Nitrides for 400°C Operation and Beyond	Brennecka, Geoff	Contributed (Oral)	2:00 PM 2:15 PM	Accepted (12/08/2023)
2	<u>4000433</u>	EMA-Joint S2 and S10-021-2024	Infrared Signatures for Phase Identification in Hafnium Oxide Thin Films	Jaszewski, Samantha	Contributed (Oral)	2:15 PM 2:30 PM	Accepted (12/13/2023)
3	<u>3985486</u>	EMA-Joint S2 and S10-022-2024	Novel mechanisms for ferroelectricity and antiferroelectricity near the atomically thin limit	Barraza-Lopez, Salvador	Invited (by Invitation Only)	2:30 PM 3:00 PM	Accepted (12/18/2023)
4	<u>3985796</u>	EMA-Joint S2 and S10-024-2024	Anisotropic properties of epitaxial ferroelectric lead-free 0.5[Ba(Ti _{0.8} Zr _{0.2})O ₃]-0.5(Ba _{0.7} Ca _{0.3})TiO ₃ films	Cucciniello, Nicholas	Contributed (Oral)	3:00 PM 3:15 PM	Accepted (12/12/2023)

Session Information

SESSION TITLE: Symposium 11 – Advanced in-situ microscopy techniques in studying complex oxides and catalysts

SESSION ABBREVIATION:

SESSION TYPE: Oral

SESSION START TIME: Wed 2/14/2024 2:00 PM

SESSION DURATION: 150

SESSION LOCATION: Colorado C

SESSION HOST: Chair: Di Zhang

SESSION CREATOR: McCurdy, Karen

SESSION TOPIC: S11 In-situ/Operando characterization of nanomaterials

CLIENT SESSION ID: 226

SESSION NOTES TO ADMIN: Wednesday, February 15, 2024; 2 - 4:30 p.m.

Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	3984107	EMA-S11-005-2024	Infrared Energy Excitations at High and Low Temperatures with In Situ Monochromated EELS	Hachtel, Jordan	Invited (by Invitation Only)	2:00 PM 2:30 PM	Accepted (11/20/2023)
2	3971061	EMA-S11-006-2024	Characterizing phase transitions in strongly-correlated oxides at atomic resolution with continuously variable temperature cryo-STEM	Schnitzer, Noah	Invited (by Invitation Only)	2:30 PM 3:00 PM	Accepted (11/20/2023)
3	3984367	EMA-S11-007-2024	Dynamics of Nanoparticle Exsolution and Growth: An in-situ STEM study	Jennings, Dylan	Contributed (Oral)	3:00 PM 3:15 PM	Accepted (11/21/2023)
4	3987292	EMA-S11-009-2024	Phonons in ferroelectric oxides domains	Susarla, Sandhya	Invited (by Invitation Only)	3:15 PM 3:45 PM	Accepted (11/20/2023)
5			Break			3:45 PM 4:15 PM	
6	3972952	EMA-S11-011-2024	Active learning for physics discovery in autonomous microscopy	Liu, Yongtao	Contributed (Oral)	4:15 PM 4:30 PM	Accepted (11/20/2023)

Session Information							
SESSION TITLE: Symposium 12: Magnetism Session I							
SESSION ABBREVIATION:							
SESSION TYPE: Oral							
SESSION START TIME: Wed 2/14/2024 2:00 PM							
SESSION DURATION: 195							
SESSION LOCATION: Colorado A							
SESSION HOST: Chair: Margo Staruch Chair: Eve Mozur							
SESSION CREATOR: Mills, Sara							
SESSION TOPIC: S12 Magnetic and superconducting materials: From Basic Science to Applications							
CLIENT SESSION ID: 228							
SESSION NOTES TO ADMIN: Wednesday. February 14, 2024; 2 - 5:15 p.m.							
Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	3984496	EMA-S12-005-2024	Extraordinary and Surface Phase Transitions in a van der Waals Layered Antiferromagnet	Zhao, Liuyan	Invited (by Invitation Only)	2:00 PM 2:30 PM	Accepted (12/05/2023)
2	3985210 (W)	EMA-S12-006-2024	Imaging Domain switching and Revealing Emergent Orders in 2D Antiferromagnets	Wu, Liang	Invited (by Invitation Only)	2:30 PM 3:00 PM	Not Yet Invited
3	3985185	EMA-S12-007-2024	Dynamically tunable, narrowband terahertz emitters designed by tailoring magnon-phonon interaction in multilayer heterostructures	Hu, Jiamian	Invited (by Invitation Only)	3:00 PM 3:30 PM	Accepted (12/05/2023)
4			Break			3:30 PM 4:00 PM	
5	3985772	EMA-S12-008-2024	Observation of mode-selective spin-phonon coupling in 2D antiferromagnets	Rao, Rahul	Invited (by Invitation Only)	4:00 PM 4:30 PM	Invited
6	3984957	EMA-S12-009-2024	Spin-mechanical coupling and dynamics in strained magnetic membranes	Xiao, Jun	Invited (by Invitation Only)	4:30 PM 5:00 PM	Accepted (12/12/2023)
7	3998105	EMA-S12-010-2024	Tailoring Physical Properties of 2D Magnets through Synthetic Parameters	Liu, Wenhao	Contributed (Oral)	5:00 PM 5:15 PM	Accepted (12/05/2023)

Session Information

SESSION TITLE: Symposium 13-Frontiers in ferroic oxides: Synthesis, properties and applications

SESSION ABBREVIATION:

SESSION TYPE: Oral

SESSION START TIME: Wed 2/14/2024 2:00 PM

SESSION DURATION: 195

SESSION LOCATION: Colorado I

SESSION HOST: Chair: Lucas Caretta

SESSION CREATOR: McCurdy, Karen

SESSION TOPIC: S13 Frontiers in Ferroic oxides: Synthesis, properties, and applications

CLIENT SESSION ID: 230

SESSION NOTES TO ADMIN: Wednesday, February 14, 2024; 2 - 5:15 p.m.

Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	3984999	EMA-S13-007-2024	Low Loss Spinel Ferrite Thin Films for Spin Wave Spintronics	Suzuki, Yuri	Invited (by Invitation Only)	2:00 PM 2:30 PM	Accepted (12/13/2023)
2	3984803	EMA-S13-008-2024	Sputtering Growth of Nanometer-Thick $\text{Y}_3\text{Fe}_5\text{O}_{12}$ Films	Wu, Mingzhong	Invited (by Invitation Only)	2:30 PM 3:00 PM	Accepted (11/22/2023)
3	3975520	EMA-S13-009-2024	Anomalous Hall and Topological Hall Effects in NiCo_2O_4 Thin Films and Free-Standing Membranes	Hong, Xia	Invited (by Invitation Only)	3:00 PM 3:30 PM	Accepted (11/20/2023)
4			Break			3:30 PM 4:00 PM	
5	3985541	EMA-S13-010-2024	Order Parameters in the Infinite Layer and Reduced Nickelates NdNiO_{2+x}	Shen, Kyle	Invited (by Invitation Only)	4:00 PM 4:30 PM	Accepted (11/20/2023)
6	3980720	EMA-S13-011-2024	Topotactic phase transitions in complex oxide membranes	Hong, Seung Sae	Invited (by Invitation Only)	4:30 PM 5:00 PM	Accepted (11/20/2023)
7	3984727	EMA-S13-012-2024	Interface Charge Engineering in Ferroelectric-Gated Mott Transistors	Hao, Yifei	Contributed (Oral)	5:00 PM 5:15 PM	Accepted (11/20/2023)

Session Information

SESSION TITLE: Symposium 14: Emerging semiconductor materials and interfaces

SESSION ABBREVIATION:

SESSION TYPE: Oral

SESSION START TIME: Wed 2/14/2024 2:00 PM

SESSION DURATION: 210

SESSION LOCATION: Colorado J

SESSION HOST: Chair: Sanghoon Bae

SESSION CREATOR: McCurdy, Karen

SESSION TOPIC: S14 Emerging semiconductor materials and interfaces

CLIENT SESSION ID: 232

SESSION NOTES TO ADMIN: Wednesday, February 14, 2024; 2 - 5:30 p.m.

Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	3982016	EMA-S14-006-2024	Two-Dimensional Neuromorphic Computing Materials and Devices	Hersam, Mark	Invited (by Invitation Only)	2:00 PM 2:30 PM	Accepted (12/04/2023)
2	3983515	EMA-S14-007-2024	Freestanding Nanomembranes as New Material Building Blocks: From Artificial Heterostructures to Monolithic 3D integration	Bae, Sanghoon	Invited (by Invitation Only)	2:30 PM 3:00 PM	Accepted (12/12/2023)
3	3984370	EMA-S14-008-2024	High Throughput Automated Synthesis and Characterization of Metal Halide Perovskites	Ahmadi, Mahshid	Invited (by Invitation Only)	3:00 PM 3:30 PM	Accepted (12/10/2023)
4			Break			3:30 PM 4:00 PM	
5	3984550	EMA-S14-009-2024	Hybrid 2D Van der Waals Materials for Functional Electronic Devices	Zhong, Yu	Invited (by Invitation Only)	4:00 PM 4:30 PM	Accepted (12/04/2023)
6	3985255	EMA-S14-010-2024	Bilayer Graphene Grown in Frank van der Merwe Mode and Its Machine-Learning-Assisted Characterization	Wang, Haozhe	Invited (by Invitation Only)	4:30 PM 5:00 PM	Accepted (12/04/2023)
7	3985718	EMA-S14-011-2024	Structural Properties and Surface Morphology of III-N Thin Films Prepared via Sputter Deposition	Nordlander, Joshua	Contributed (Oral)	5:00 PM 5:15 PM	Accepted (12/05/2023)
8	3986529	EMA-S14-012-2024	HF-Free Etching of β -Ga ₂ O ₃	Sowers, Elizabeth	Contributed (Oral)	5:15 PM 5:30 PM	Accepted (12/05/2023)

Session Information

SESSION TITLE: Symposium 15-Electronics materials for 5G/6G applications

SESSION ABBREVIATION:

SESSION TYPE: Oral

SESSION START TIME: Wed 2/14/2024 2:00 PM

SESSION DURATION: 225

SESSION LOCATION: Colorado H

SESSION HOST: Chair: Lucas Enright
Chair: Nate Orloff

SESSION CREATOR: McCurdy, Karen

SESSION TOPIC: S15 Electronics Materials for 5G/6G Applications

CLIENT SESSION ID: 234

SESSION NOTES TO ADMIN: Wednesday, February 14, 2023; 2 - 5:45 p.m.

Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	4001096	EMA-S15-008-2024	Industry panel on 5G and 6G: Materials, Devices and Measurements	Orloff, Nate	Invited (by Invitation Only)	2:00 PM 2:30 PM	Accepted (12/13/2023)
2	3984115	EMA-S15-009-2024	Frequency-Dependent Electromagnetic Properties of Engineered Flexible Composites	Suriyasena Liyanage, Luckshitha	Invited (by Invitation Only)	2:30 PM 3:00 PM	Accepted (12/02/2023)
3	3984514	EMA-S15-010-2024	Leveraging Emerging Magnetic Materials for 6G Devices	Kulik, Piotr	Invited (by Invitation Only)	3:00 PM 3:30 PM	Accepted (11/29/2023)
4			Break			3:30 PM 4:00 PM	
5	3998364	EMA-S15-011-2024	Polar Vortices films at mmWave frequencies	Bergmann, Florian	Contributed (Oral)	4:00 PM 4:15 PM	Accepted (11/30/2023)
6	3977825	EMA-S15-012-2024	Superior Microwave Properties and Structural Analysis of Alumina-based Ceramics	Tan, Daniel	Contributed (Oral)	4:15 PM 4:30 PM	Accepted (11/29/2023)
7	3982456	EMA-S15-013-2024	Emerging Materials and Design Principles for Wurtzite-type Ferroelectrics	Lee, Cheng-Wei	Contributed (Oral)	4:30 PM 4:45 PM	Accepted (11/29/2023)
8	4000589	EMA-S15-014-2024	Leakage reduction and polarization saturation in Al _{0.7} Sc _{0.3} N films integrated on GaN and InGaN templates	Yazawa, Keisuke	Contributed (Oral)	4:45 PM 5:00 PM	Accepted (12/04/2023)
9	4014559	EMA-S15-016-2024	An On-Chip Electric-Acoustic Force Balance for Particle Sorting	Shaw, Leya	Contributed (Oral)	5:00 PM 5:15 PM	Accepted (11/30/2023)
10	3985879	EMA-S15-017-2024	Electro-optic sampling of on-chip integrated photodiodes for THz signal generation	Osella, Anna	Contributed (Oral)	5:15 PM 5:30 PM	Accepted (11/30/2023)
11	4001094	EMA-S15-018-2024	Tutorial: A review of some on-wafer permittivity measurement techniques	Orloff, Nate	Contributed (Oral)	5:30 PM 5:45 PM	Accepted (12/13/2023)

Session Information

SESSION TITLE: Symposium 3- Advanced electronic materials: Processing, structures, properties, and applications

SESSION ABBREVIATION:

SESSION TYPE: Oral

SESSION START TIME: Wed 2/14/2024 2:00 PM

SESSION DURATION: 90

SESSION LOCATION: Colorado E

SESSION HOST: Chair: Eric Patterson

SESSION CREATOR: McCurdy, Karen

SESSION TOPIC: S3 Advanced electronic materials: Processing and structures and properties and applications

CLIENT SESSION ID: 236

SESSION NOTES TO ADMIN: Wednesday, February 14, 2024; 2 - 3:30 p.m.

Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	3998556	EMA-S3-009-2024	Homovalent- and heterovalent-substituted BaTiO ₃ : Unravelling the origin of relaxor behavior	Canu, Giovanna	Invited (by Invitation Only)	2:00 PM 2:30 PM	Accepted (12/19/2023)
2	3985549	EMA-S3-011-2024	The Effect of Ca, Sr, and Ba-doping on the Dielectric and Polarization Properties of PZT 95/5 Ceramics	Neuman, Eric	Contributed (Oral)	2:30 PM 2:45 PM	Accepted (12/12/2023)
3	3985567	EMA-S3-012-2024	Electronic and Microstructure effects of Aluminum Additions in Niobium-Doped Tin-Modified PZT 95/5	Price, Patrick	Contributed (Oral)	2:45 PM 3:00 PM	Invited
4	3983607	EMA-S3-013-2024	The Effect of Lead Stoichiometry on the Dielectric and Polarization Properties of PSZT(Nb) Ceramics	Bishop, Sean	Contributed (Oral)	3:00 PM 3:15 PM	Accepted (12/11/2023)
5	3999877	EMA-S3-014-2024	Lead-free multiferroic ceramic materials with enhanced ferroelectric and electrocaloric properties	Rozic, Brigita	Contributed (Oral)	3:15 PM 3:30 PM	Accepted (12/11/2023)

Session Information

SESSION TITLE: Symposium 4: Strain, microstructures and functionality tuning

SESSION ABBREVIATION: S4-b

SESSION TYPE: Oral

SESSION START TIME: Wed 2/14/2024 2:00 PM

SESSION DURATION: 120

SESSION LOCATION: Colorado B

SESSION HOST: Chair: Matthaeus Siebenhofer
Chair: Le Wang

SESSION CREATOR: Jeen, Hyoungeen

SESSION TOPIC: S4 Complex Oxide Thin Films & Heterostruct - From Synthesis to Strain/Interface-eng
Emergent Prop

CLIENT SESSION ID: 238

SESSION NOTES TO ADMIN: Wednesday, February 14, 2024; 2 - 4 p.m.

Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	3985311	EMA-S4-008-2024	Recent Progress and Future Directions for Oxide-based and Nitride-based Vertically Aligned Nanocomposites	Wang, Haiyan	Invited (by Invitation Only)	2:00 PM 2:30 PM	Accepted (12/11/2023)
2	3985717	EMA-S4-009-2024	ZnO-Au Hybrid Metamaterials Thin Films with Tunable Optical Properties	Bhatt, Nirali	Contributed (Oral)	2:30 PM 2:45 PM	Accepted (11/16/2023)
3	3986140	EMA-S4-010-2024	Oxygen-vacancy-induced magnetic anisotropy in LaCrO ₃ /LaMnO ₃ heterostructures	Kumah, Divine	Contributed (Oral)	2:45 PM 3:00 PM	Accepted (11/16/2023)
4	3982858	EMA-S4-011-2024	Growth of crystalline SrVO ₃ thin films on glass: Enabling applications as Transparent Conducting Oxide	Lüders, Ulrike	Contributed (Oral)	3:00 PM 3:15 PM	Accepted (11/16/2023)
5	3985418 (V)	EMA-S4-012-2024	Strain-driven magnetic anisotropy in La _{0.88} Sr _{0.12} MnO ₃ thin films on (110) NdGaO ₃	Jeen, Hyoungeen	Contributed (Oral)	3:15 PM 3:30 PM	Not Yet Invited
6			Break			3:30 PM 4:00 PM	

Session Information							
SESSION TITLE: Symposium 4: Growth & In-situ characterization of complex oxide thin films							
SESSION ABBREVIATION: S4-c							
SESSION TYPE: Oral							
SESSION START TIME: Wed 2/14/2024 4:00 PM							
SESSION DURATION: 60							
SESSION LOCATION: Colorado B							
SESSION HOST: Chair: Hao Pan							
Chair: Hanjong Paik							
SESSION CREATOR: Jeen, Hyoungjeen							
SESSION TOPIC: S4 Complex Oxide Thin Films & Heterostruct - From Synthesis to Strain/Interface-eng							
Emergent Prop							
CLIENT SESSION ID: 240							
SESSION NOTES TO ADMIN: Wednesday, February 14, 2024; 4- 5 p.m.							
Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	3985823	EMA-S4-013-2024	Impact of Duty Cycle on the Endurance of Hafnium Zirconium Oxide Thin Film Capacitors	Lenox, Megan	Contributed (Oral)	4:00 PM 4:15 PM	Accepted (11/16/2023)
2	3984537	EMA-S4-014-2024	Exploring Oxygen Motion in Hafnium Zirconium Oxide Thin Films for Nonvolatile Memory Applications	Shvilberg, Liron	Contributed (Oral)	4:15 PM 4:30 PM	Accepted (11/17/2023)
3	3978857	EMA-S4-015-2024	Investigating emerging interfaces by in-situ impedance spectroscopy during pulsed laser deposition	Siebenhofer, Matthaeus	Contributed (Oral)	4:30 PM 4:45 PM	Accepted (11/16/2023)
4	3983890	EMA-S4-016-2024	Crystallization Kinetics in Atomic Layer Deposited (ALD) Thin Films: Opportunities of Time and Chemical Environment	Losego, Mark	Contributed (Oral)	4:45 PM 5:00 PM	Accepted (11/16/2023)

Session Information

SESSION TITLE: Poster Session

SESSION ABBREVIATION:

SESSION TYPE: Poster

SESSION START TIME: Wed 2/14/2024 5:30 PM

SESSION DURATION: 120

SESSION LOCATION: Penrose Ballroom

SESSION HOST:

SESSION CREATOR: McCurdy, Karen

SESSION TOPIC: Posters

CLIENT SESSION ID: 242

SESSION NOTES TO ADMIN: Wednesday, February 14, 5:30 - 7 p.m.

Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	3984155	EMA-P001-2024	Optical Furnace for High-Throughput Sintering	Tellez Gonzalez, Jaime	Poster	5:30 PM 5:30 PM	Accepted (12/15/2023)
2	3984437	EMA-P002-2024	The Role of Particle Size and Composition in Ferrite/Polymer Microwave Absorbers	Padgett, Andrew	Poster	5:30 PM 5:30 PM	Accepted (12/12/2023)
3	3985247	EMA-P004-2024	Effect of Co-Doping in BaTiO ₃ Ceramics on Dielectric Properties	Kumari, Pooja	Poster	5:30 PM 5:30 PM	Accepted (12/12/2023)
4	3985854	EMA-P005-2024	Epitaxial growth and properties of novel UWBG MgGe ₂ O ₄ and In ₂ Ge ₂ O ₇ compounds	Egbo, Kingsley	Poster	5:30 PM 5:30 PM	Accepted (12/12/2023)
5	3986084	EMA-P006-2024	Toward a Defect Chemical Model of Y ₂ Ru ₂ O ₇ Pyrochlore, an OER Catalyst for Acidic Conditions	Cho, En Ju	Poster	5:30 PM 5:30 PM	Accepted (12/12/2023)
6	3986103	EMA-P007-2024	Low Thermal-Budget Processing of Thin-Film Li ₂ OHCl Antiperovskite Solid Electrolytes for All-Solid-State Batteries	Lan, Kai-Wei	Poster	5:30 PM 5:30 PM	Accepted (12/16/2023)
7	3986178	EMA-P008-2024	More inclusive Q&A will lead to better science	Rom, Christopher	Poster	5:30 PM 5:30 PM	Accepted (12/20/2023)
8	3999211	EMA-P009-2024	Characterization of Ferroelectric Mg-Alloyed Zinc Oxide by Transmission Electron Microscopy	Gunay, Ece	Poster	5:30 PM 5:30 PM	Accepted (12/12/2023)
9	4000195	EMA-P010-2024	Perovskite Formation Mechanisms of a Low-Lead and High Ferroelectric/Piezoelectric Property Material through High Temperature In Situ X-Ray Diffraction	Kiel, Grace	Poster	5:30 PM 5:30 PM	Accepted (12/12/2023)
10	4000544	EMA-P011-2024	Charting The Application Space for Textured PMN-PZ-PT Piezoceramics	Gurdal, Ahmet	Poster	5:30 PM 5:30 PM	Accepted (12/22/2023)
11	4000574	EMA-P012-2024	Deactivating the lower level in Ho/Pr:Y ₂ O ₃ ceramic and activating the upper level in Er/Yb:Y ₂ O ₃ ceramic for mid-IR lasers	Zhan, Yuhao	Poster	5:30 PM 5:30 PM	Invited
12	4000585 (W)	EMA-P013-2024	Unveiling Defect Dynamics and their Impact on the Reliability of Multilayer Ceramic Capacitors	Yousefian, Pedram	Poster	5:30 PM 5:30 PM	Not Yet Invited
13	4000628	EMA-P014-2024	Higher order topology in hydrogenated graphite	Gheorghiu, Nadina	Poster	5:30 PM 5:30 PM	Accepted (12/19/2023)
14	3983565	EMA-P015-2024	Uncovering the Origin of Piezoelectric Response in BFTM-PT	Dolgos, Michelle	Poster	5:30 PM 5:30 PM	Accepted (12/12/2023)

15	4072952	EMA-P016-2024	Microwave Dielectric Properties and Loss Mechanism of $(\text{Ca}_{1+x}\text{Sm}_{1-x})(\text{Al}_{1-x}\text{Ti}_x)\text{O}_4$ Ceramics	Kim, Mingyu	Poster	5:30 PM 5:30 PM	Accepted (1/17/2024)
16	4072939	EMA-P017-2024	High-Entropy Pb-based Perovskite Local Structure Analysis through fitting of EXAFS data	Barber, John	Poster	5:30 PM 5:30 PM	Accepted (1/18/2024)
17	4075634	EMA-P018-2024	Lead-free halide perovskite light-emitting diodes using vacuum thermal evaporation	Kim, Do Young	Poster	5:30 PM 5:30 PM	Accepted (1/19/2024)
18	4075646	EMA-P019-2024	Water splitting at the phase transition of ferroelectric oxide single crystals	Domingo Marimon, Neus	Poster	5:30 PM 5:30 PM	Invited
19	4075648	EMA-P020-2024	Scanning Oscillator Piezoresponse Force Microscopy: new tools to explore domain wall dynamics.	Domingo Marimon, Neus	Poster	5:30 PM 5:30 PM	Accepted (1/19/2024)
20	4082899	EMA-P021-2024	Controlling microstructure in relaxor ferroelectric BaTiO_3	Sangwan, Vika	Poster	5:30 PM 5:30 PM	Accepted (2/09/2024)

Session Information							
SESSION TITLE: Plenary Session:Adsorption, Diffusion, and Disconnection Motion During Sintering: Engineering Microstructures by Grain Boundary Control							
SESSION ABBREVIATION:							
SESSION TYPE: Plenary							
SESSION START TIME: Thu 2/15/2024 8:30 AM							
SESSION DURATION: 60							
SESSION LOCATION: Colorado E							
SESSION HOST: Chair: Fei Peng Chair: Klaus van Benthem							
SESSION CREATOR: McCurdy, Karen							
SESSION TOPIC: Plenary Sessions							
CLIENT SESSION ID: 302							
SESSION NOTES TO ADMIN: Thursday, February 15, 2024; 8:30 - 9:30 a.m.							
Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	<u>3977184</u>	EMA- PLEN 02- 001-2024	Adsorption, Diffusion, and Disconnection Motion During Sintering: Engineering Microstructures by Grain Boundary Control	Kaplan, Wayne	Plenary	8:30 AM 9:30 AM	Accepted (12/19/2023)

Session Information

SESSION TITLE: Symposium 17: Electronic and Ionic materials in battery energy storage

SESSION ABBREVIATION:

SESSION TYPE: Oral

SESSION START TIME: Thu 2/15/2024 9:45 AM

SESSION DURATION: 180

SESSION LOCATION: Colorado H

SESSION HOST: Chair: Hua Zhou
Chair: Fudong Han

SESSION CREATOR: McCurdy, Karen

SESSION TOPIC: S17 Electronic and Ionic Materials for Battery Energy Storage

CLIENT SESSION ID: 304

SESSION NOTES TO ADMIN: Thursday, February 15, 2024; 9:45 a.m. - 12:45 p.m.

Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	3981463	EMA-S17-001-2024	Electronic Transport in Lithium Solid Electrolytes	Han, Fudong	Invited (by Invitation Only)	9:45 AM 10:15 AM	Accepted (12/08/2023)
2	3984597	EMA-S17-002-2024	Interrogating the Effects of Misorientation on the Ion Conductivity of Single Grain Boundaries in Epitaxially Grown $\text{Li}_{3x}\text{La}_{1/3-x}\text{TaO}_3$ Films	Brummel, Ian	Contributed (Oral)	10:15 AM 10:30 AM	Accepted (12/11/2023)
3	4005456	EMA-S17-003-2024	Structural and electrochemical properties of $\text{Li}_4\text{Ti}_5\text{O}_{12}$ epitaxial thin-film electrodes grown by pulsed laser deposition	Zuntar, Jan	Contributed (Oral)	10:30 AM 10:45 AM	Accepted (12/18/2023)
4	4005466	EMA-S17-004-2024	Investigating structural changes in epitaxial $\text{LiNi}_{0.33}\text{Mn}_{0.33}\text{Co}_{0.33}\text{O}_2$ thin films by high-resolution X-ray diffraction	Jaklic, Blaz	Contributed (Oral)	10:45 AM 11:00 AM	Accepted (12/09/2023)
5	3984121	EMA-S17-005-2024	Processing-Structure-Transport Property Relationships of Pulsed-Laser Deposited LATP as Thin-Film Battery Solid Electrolytes	Cho, En Ju	Contributed (Oral)	11:00 AM 11:15 AM	Accepted (12/08/2023)
6	4044109	EMA-S17-007-2024	Rationally Engineering Interfaces to Improve Performances of Li Metal Batteries	Li, Bin	Invited (by Invitation Only)	11:15 AM 11:45 AM	Accepted (12/23/2023)
7	4044122 (VV)	EMA-S17-008-2024	Exploring Electrolyte Corrosion and Compatibility Across Lithium-Ion and Lithium-Metal Batteries	Fang, Chengcheng	Invited (by Invitation Only)	11:45 AM 12:15 PM	Not Yet Invited
8	4000600	EMA-S17-009-2024	Improving the ionic conductivity of NaTiGaO electrolytes by pairing fast sintering, grain growth analysis, high throughput measurements, and data-driven computer models	Thuis, Michael	Contributed (Oral)	12:15 PM 12:30 PM	Accepted (12/22/2023)
9	3999462	EMA-S17-010-2024	The Decoupling of Particle Size with Lithium Diffusion & Reaction Times in Polycrystalline Battery Particles	Li, Yiyang	Contributed (Oral)	12:30 PM 12:45 PM	Accepted (12/22/2023)

Session Information							
SESSION TITLE: Joint Symposium 2 and 10: Ferroic Thin Films 3							
SESSION ABBREVIATION:							
SESSION TYPE: Oral							
SESSION START TIME: Thu 2/15/2024 10:00 AM							
SESSION DURATION: 135							
SESSION LOCATION: Colorado D							
SESSION HOST: Chair: Jon Ihlefeld Chair: Ruyan Guo							
SESSION CREATOR: Chen, Aiping							
SESSION TOPIC: S2 Advanced Microelectronics							
CLIENT SESSION ID: 306							
SESSION NOTES TO ADMIN: February 15, 2024; 10 a.m. - 12:15 p.m.							
Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	<u>4009482</u>	EMA-Joint S2 and S10-026-2024	Manipulating Magneto-Elasto-Electric Coupling in Multiferroic Nanocomposites	Guo, Ruyan	Invited (by Invitation Only)	10:00 AM 10:15 AM	Invited
2	<u>3986082</u>	EMA-Joint S2 and S10-027-2024	Magnetic Diodes: Advancements, Challenges, and Applications	Rowe, Emmanuel	Invited (by Invitation Only)	10:15 AM 10:45 AM	Accepted (12/13/2023)
3	<u>4000222</u>	EMA-Joint S2 and S10-028-2024	Synthesis of Al _{1-x} Gd _x N wurtzite thin films using reactive HiPIMS technique	Paudel, Binod	Contributed (Oral)	10:45 AM 11:00 AM	Accepted (12/08/2023)
4	<u>4004941</u>	EMA-Joint S2 and S10-029-2024	Printed haptic module for enabling autonomous sensing in agricultural manipulators	Sundaravadivel, Prabha	Contributed (Oral)	11:00 AM 11:15 AM	Accepted (12/19/2023)
5	<u>3986143</u>	EMA-Joint S2 and S10-031-2024	Ion Migration and Chemical Reactivity Studies in Electronic Materials by Means of Time-of-Flight Secondary Ion Mass Spectrometry	Ievlev, Anton	Invited (by Invitation Only)	11:15 AM 11:45 AM	Accepted (12/11/2023)
6	<u>3999874</u>	EMA-Joint S2 and S10-032-2024	Flexible Nanocomposite Materials for Energy Harvesting and Heat Management	Kutnjak, Zdravko	Contributed (Oral)	11:45 AM 12:00 PM	Accepted (12/15/2023)
7	<u>3984301</u>	EMA-Joint S2 and S10-033-2024	Epitaxial growth of lithium niobate thin films for acoustic resonators in wireless network	Ye, Zhen	Contributed (Oral)	12:00 PM 12:15 PM	Accepted (12/11/2023)

Session Information

SESSION TITLE: Joint Symposium 2 and 10: Neuromorphic computing - II

SESSION ABBREVIATION:

SESSION TYPE: Oral

SESSION START TIME: Thu 2/15/2024 10:00 AM

SESSION DURATION: 120

SESSION LOCATION: Colorado G

SESSION HOST: Chair: Sabine Neumayer

SESSION CREATOR: McCurdy, Karen

SESSION TOPIC: S10 Fundamental mechanisms in materials for next-generation computing devices

CLIENT SESSION ID: 308

SESSION NOTES TO ADMIN: Thursday, February 15, 2024; 10 a.m. - 12 p.m.

Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	3984733	EMA- Joint S2 and S10-034-2024	Heat transfer-based nanoscale neuristor	Schuller, Ivan	Invited (by Invitation Only)	10:00 AM 10:30 AM	Accepted (12/08/2023)
2	3986170 (W)	EMA- Joint S2 and S10-035-2024	Unlocking Ultra-Fast Artificial Neuron Performance with Vanadium Oxide Resistive Switching using (111) Perovskite Substrates	Cucciniello, Nicholas	Contributed (Oral)	10:30 AM 10:45 AM	Not Yet Invited
3	3983129	EMA- Joint S2 and S10-036-2024	Measuring the phonon contributions to total thermal conductivity of Ru and W thin films using a SSTR technique	Islam, Md Rafiqul	Contributed (Oral)	10:45 AM 11:00 AM	Invited
4	3985120	EMA- Joint S2 and S10-038-2024	Harnessing Variability of Ferroelectric and Ferromagnetic Neuromorphic Devices	Islam, A N M Nafiul	Contributed (Oral)	11:00 AM 11:15 AM	Accepted (12/08/2023)
5	3975129	EMA- Joint S2 and S10-039-2024	Design of Memristive Devices Towards Neuromorphic Computing	Chen, Aiping	Contributed (Oral)	11:15 AM 11:30 AM	Accepted (12/14/2023)
6	3981191	EMA- Joint S2 and S10-040-2024	Memristive Nanodevices and Arrays for Unconventional Computing	Xia, Qiangfei	Invited (by Invitation Only)	11:30 AM 12:00 PM	Accepted (12/08/2023)

Session Information

SESSION TITLE: Symposium 11 – In-situ x-ray diffraction and microscopy in studying functional materials and nanodevices

SESSION ABBREVIATION:

SESSION TYPE: Oral

SESSION START TIME: Thu 2/15/2024 10:00 AM

SESSION DURATION: 165

SESSION LOCATION: Colorado C

SESSION HOST: Chair: Katherine Harmon

SESSION CREATOR: McCurdy, Karen

SESSION TOPIC: S11 In-situ/Operando characterization of nanomaterials

CLIENT SESSION ID: 310

SESSION NOTES TO ADMIN: Thursday, February 15, 2024; 10 a.m. - 12:45 p.m.

Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	3981507	EMA-S11-012-2024	Structure and Dynamics in Electrolyte-gated NdNiO ₃	Zheng, Hao	Invited (by Invitation Only)	10:00 AM 10:30 AM	Accepted (11/20/2023)
2	3986006	EMA-S11-013-2024	Operando dynamical studies of intercalated 2d materials via x-ray and electron scattering	Lindenberg, Aaron	Invited (by Invitation Only)	10:30 AM 11:00 AM	Accepted (12/05/2023)
3	3985241	EMA-S11-014-2024	In situ Electrical Characterization of Non-volatile Memory Devices under Mixed Radiation Environment	Sharma, Chaitanya	Contributed (Oral)	11:00 AM 11:15 AM	Accepted (11/20/2023)
4	3985182	EMA-S11-010-2024	Breaking the Resolution-Field of View Impasse in Catalyst Characterization with 4D-STEM	Mukherjee, Debangshu	Invited (by Invitation Only)	11:15 AM 11:45 AM	Invited
5	3986572 (W)	EMA-S11-015-2024	Investigation of the Resistivity Switching Mechanisms of Interface-Type Memristor Devices via In Situ STEM and EELS	Zhang, Di	Contributed (Oral)	11:45 AM 11:45 AM	Not Yet Invited
6	3965690	EMA-S11-016-2024	Measuring Microstructural and Micromechanical Response during in situ Loading with Diffraction Microstructure Imaging	Pagan, Darren	Invited (by Invitation Only)	11:45 AM 12:15 PM	Accepted (11/20/2023)
7	3965282	EMA-S11-017-2024	Mapping the Domain Structure in Bicrystal Lead Zirconate-Titanate thin films using Nanodiffraction	Udovenko, Stanislav	Contributed (Oral)	12:15 PM 12:30 PM	Accepted (11/20/2023)
8	3983472	EMA-S11-018-2024	What lies beyond: Exploring ferroelectric domains beneath the surface with Tomographic AFM	Del Cid-Ledezma, Karla	Contributed (Oral)	12:30 PM 12:45 PM	Accepted (11/21/2023)

Session Information							
SESSION TITLE: Symposium 12: Superconductivity Session II							
SESSION ABBREVIATION:							
SESSION TYPE: Oral							
SESSION START TIME: Thu 2/15/2024 10:00 AM							
SESSION DURATION: 60							
SESSION LOCATION: Colorado A							
SESSION HOST: Chair: Bing Lv							
Chair: Michael Susner							
SESSION CREATOR: Mills, Sara							
SESSION TOPIC: S12 Magnetic and superconducting materials: From Basic Science to Applications							
CLIENT SESSION ID: 312							
SESSION NOTES TO ADMIN: Thursday, February 15, 2024; 10 - 11 a.m.							
Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	<u>3986133</u>	EMA-S12-011-2024	Tunneling Andreev Reflection - new quantitative microscopy of superconductors with atomic resolution	Maksymovych, Petro	Contributed (Oral)	10:00 AM 10:15 AM	Accepted (12/11/2023)
2	<u>3986083</u>	EMA-S12-013-2024	Materials Research for Scaling Superconducting Quantum Electronics	Sardashti, Kasra	Invited (by Invitation Only)	10:15 AM 10:45 AM	Accepted (12/05/2023)
3	<u>4001105</u>	EMA-S12-014-2024	Ultrafast Optically Pulse Triggered Microwave/Terahertz Emission from an Array of Charged Superconducting Rings	Bullard, Thomas	Contributed (Oral)	10:45 AM 11:00 AM	Accepted (12/13/2023)

Session Information							
SESSION TITLE: Symposium 13-Frontiers in ferroic oxides: Synthesis, properties and applications							
SESSION ABBREVIATION:							
SESSION TYPE: Oral							
SESSION START TIME: Thu 2/15/2024 10:00 AM							
SESSION DURATION: 150							
SESSION LOCATION: Colorado I							
SESSION HOST: Chair: Seung Sae Hong							
SESSION CREATOR: McCurdy, Karen							
SESSION TOPIC: S13 Frontiers in Ferroic oxides: Synthesis, properties, and applications							
CLIENT SESSION ID: 314							
SESSION NOTES TO ADMIN: Thursday, February 15, 2024; 10 a.m. -12:30 p.m.							
Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	4000510	EMA-S13-013-2024	Direct Imaging of Polar Topological Textures and Their Phase Transitions using Electron Microscopy	Shao, Yu-Tsun	Invited (by Invitation Only)	10:00 AM 10:30 AM	Accepted (11/20/2023)
2	4000560	EMA-S13-014-2024	Non-volatile electric-field control of inversion symmetry in a multiferroic oxide	Caretta, Lucas	Invited (by Invitation Only)	10:30 AM 11:00 AM	Accepted (11/21/2023)
3	3984399	EMA-S13-015-2024	Exploring free-standing $\text{PbZr}_{0.2}\text{Ti}_{0.8}\text{O}_3$ membrane and its nonvolatile gating effect in two-dimensional MoS_2	Wu, Qiuchen	Contributed (Oral)	11:00 AM 11:15 AM	Accepted (11/20/2023)
4	3985030	EMA-S13-016-2024	Nanoscale Influences on polar phase transitions in bulk materials	Rappe, Andrew	Invited (by Invitation Only)	11:15 AM 11:45 AM	Accepted (12/12/2023)
5	3986105	EMA-S13-017-2024	High-performance domain-engineered tunable dielectrics	Spanier, Jonathan	Invited (by Invitation Only)	11:45 AM 12:15 PM	Accepted (11/20/2023)
6	3985927	EMA-S13-018-2024	Phase-field simulation of bulk photovoltaic effect and associated domain manipulation in ferroelectrics	Liou, Yi-De	Contributed (Oral)	12:15 PM 12:30 PM	Accepted (11/21/2023)

Session Information							
SESSION TITLE: Symposium 14-Emerging semiconductor materials and interfaces							
SESSION ABBREVIATION:							
SESSION TYPE: Oral							
SESSION START TIME: Thu 2/15/2024 10:00 AM							
SESSION DURATION: 90							
SESSION LOCATION: Colorado J							
SESSION HOST: Chair: Nidhin Kalarickal							
SESSION CREATOR: McCurdy, Karen							
SESSION TOPIC: S14 Emerging semiconductor materials and interfaces							
CLIENT SESSION ID: 316							
SESSION NOTES TO ADMIN: Thursday, February 15, 2024; 10 a.m. -11:30 a.m.							
Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	4015381	EMA-S14-014-2024	Metal halide perovskites: Emerging materials for light emission and spin manipulation	Kim, Young-Hoon	Invited (by Invitation Only)	10:00 AM 10:30 AM	Invited
2	4044351	EMA-S14-015-2024	New Class Semiconducting Materials of Organic-Inorganic Metal Halides : Synthesis, Structure, and Properties	Shin, Hyunjung	Invited (by Invitation Only)	10:30 AM 11:00 AM	Accepted (12/04/2023)
3	3976670	EMA-S14-016-2024	Identifying long-carrier lifetime semiconductors for photovoltaic and infra-red applications	Hautier, Geoffroy	Invited (by Invitation Only)	11:00 AM 11:30 AM	Accepted (12/04/2023)

Session Information

SESSION TITLE: Symposium 3: Advanced electronic materials: Processing, structures, properties, and applications

SESSION ABBREVIATION:

SESSION TYPE: Oral

SESSION START TIME: Thu 2/15/2024 10:00 AM

SESSION DURATION: 105

SESSION LOCATION: Colorado E

SESSION HOST: Chair: Sean Bishop

SESSION CREATOR: McCurdy, Karen

SESSION TOPIC: S3 Advanced electronic materials: Processing and structures and properties and applications

CLIENT SESSION ID: 318

SESSION NOTES TO ADMIN: Thursday, February 15, 2024; 10 - 11:45 a.m.

Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	<u>3993404</u>	EMA-S3-015-2024	Importance of Cation Redox in the Pressureless Sintering and Subsequent Properties of Entropy-Stabilized J14 Ceramics	Brennecka, Geoff	Invited (by Invitation Only)	10:00 AM 10:30 AM	Accepted (12/11/2023)
2	<u>3988391</u>	EMA-S3-016-2024	Molecular ceramics for advanced electronic and energy applications	Walker, Julian	Invited (by Invitation Only)	10:30 AM 11:00 AM	Accepted (12/11/2023)
3	<u>3985965</u>	EMA-S3-017-2024	Theory-Guided Discovery of Antiferroelectric Ceramics for Energy-Efficient Capacitors	Tan, Xiaoli	Contributed (Oral)	11:00 AM 11:15 AM	Accepted (12/11/2023)
4	<u>3980193</u>	EMA-S3-018-2024	Phase Boundaries of LaWN ₃ Synthesized from Oxide Precursors via Ammonolysis	Rogers, Shannon	Contributed (Oral)	11:15 AM 11:30 AM	Accepted (12/11/2023)
5	<u>3985109</u>	EMA-S3-019-2024	Preparation of functional composite films using the aerosol deposition method	Uršič, Hana	Contributed (Oral)	11:30 AM 11:45 AM	Accepted (12/12/2023)

Session Information

SESSION TITLE: Symposium 4: Theory & Characterizations of complex oxides

SESSION ABBREVIATION: S4-d

SESSION TYPE: Oral

SESSION START TIME: Thu 2/15/2024 10:00 AM

SESSION DURATION: 150

SESSION LOCATION: Colorado B

SESSION HOST: Chair: Jennifer Fowlie
Chair: Pinku Roy

SESSION CREATOR: Jeen, Hyoungeen

SESSION TOPIC: S4 Complex Oxide Thin Films & Heterostruct - From Synthesis to Strain/Interface-eng
Emergent Prop

CLIENT SESSION ID: 320

SESSION NOTES TO ADMIN: Thursday, February 15 2024; 10 a.m. - 12:30 p.m.

Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	3981488	EMA-S4-017-2024	Mapping Strain and Polarization at Defects and Interfaces with Nanobeam Electron Diffraction	Holtz, Megan	Invited (by Invitation Only)	10:00 AM 10:30 AM	Accepted (11/17/2023)
2	3998384	EMA-S4-018-2024	Spatially Resolved Mosaicity in Wurtzite-Structured (Al,Sc)N Thin Films via DPC STEM	Evans, Charles	Contributed (Oral)	10:30 AM 10:45 AM	Accepted (12/20/2023)
3	3985649	EMA-S4-019-2024	Impact of Electrodes on Retention Performance of Ferroelectric $\text{Hf}_{0.5}\text{Zr}_{0.5}\text{O}_2$ Capacitors	Aronson, Benjamin	Contributed (Oral)	10:45 AM 11:00 AM	Accepted (12/05/2023)
4	3983775	EMA-S4-020-2024	Effect of Heterointerfaces Formed by Metal Exsolution on the Thermoelectric Properties of Epitaxial $\text{La}_{0.7}\text{Ca}_{0.2}\text{Ni}_{0.25}\text{Ti}_{0.75}\text{O}_3$ Thin Films	Lee, Dongkyu	Invited (by Invitation Only)	11:00 AM 11:30 AM	Accepted (11/16/2023)
5	4000545	EMA-S4-021-2024	Unraveling the Strain Effect on Oxygen Evolution Reaction Activities of A-site High Entropy Nickelates	Choi, Min-Ju	Contributed (Oral)	11:30 AM 11:45 AM	Accepted (12/05/2023)
6	4000562	EMA-S4-022-2024	Oxygen vacancy ordering and oxygen transport in topotactic oxides	Sushko, Peter	Invited (by Invitation Only)	11:45 AM 12:15 PM	Accepted (12/06/2023)
7	3985154	EMA-S4-023-2024	You don't have to call them complexions, just don't call them phases	Carter, W. Craig	Contributed (Oral)	12:15 PM 12:30 PM	Accepted (12/07/2023)

Session Information							
SESSION TITLE: Joint Symposium 2 and 10: Material dynamics for computing functions							
SESSION ABBREVIATION:							
SESSION TYPE: Oral							
SESSION START TIME: Thu 2/15/2024 2:00 PM							
SESSION DURATION: 150							
SESSION LOCATION: Colorado D							
SESSION HOST: Chair: Salvador Barraza-Lopez							
SESSION CREATOR: McCurdy, Karen							
SESSION TOPIC: S10 Fundamental mechanisms in materials for next-generation computing devices							
CLIENT SESSION ID: 324							
SESSION NOTES TO ADMIN: Thursday, February 15, 2024; 2 - 4:30 p.m.							
Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	3999128 (W)	EMA-Joint S2 and S10-041-2024	Dynamics of Electrochemical Ionic Synapses to Emulate Spike Timing Depending Plasticity and other Bio-realistic Learning Rules	Yildiz, Bilge	Invited (by Invitation Only)	2:00 PM 2:00 PM	Not Yet Invited
2	4000531	EMA-Joint S2 and S10-046-2024	Origins of Information Retention in Memristive Materials	Li, Yiyang	Contributed (Oral)	2:00 PM 2:15 PM	Accepted (2/08/2024)
3	3970606	EMA-Joint S2 and S10-042-2024	Engineering of Dynamic Behaviors in Emerging Memory Devices for Neuromorphic Circuits	Beckmann, Karsten	Invited (by Invitation Only)	2:15 PM 2:45 PM	Accepted (12/08/2023)
4	3983778	EMA-Joint S2 and S10-043-2024	Deterministic Conductive Filament Dynamics for Improved Switching Uniformity in Embedded Metal-Oxide-Based Memristors	Cao, Ye	Invited (by Invitation Only)	2:45 PM 3:15 PM	Accepted (12/15/2023)
5			Break			3:15 PM 3:45 PM	
6	3986109	EMA-Joint S2 and S10-044-2024	Data-driven dynamics of nanoscale hysteresis for systematic understanding of switching mechanisms in neuromorphic materials	Maksymovych, Petro	Contributed (Oral)	3:45 PM 4:00 PM	Accepted (12/11/2023)
7	3982586	EMA-Joint S2 and S10-045-2024	Neuromorphic Computing: Bridging the gap between Nanoelectronics, Neuroscience and Machine Learning	Sengupta, Abhronil	Invited (by Invitation Only)	4:00 PM 4:30 PM	Accepted (12/09/2023)

Session Information

SESSION TITLE: Symposium 12: Magnetism Session II

SESSION ABBREVIATION:

SESSION TYPE: Oral

SESSION START TIME: Thu 2/15/2024 2:00 PM

SESSION DURATION: 180

SESSION LOCATION: Colorado A

SESSION HOST: Chair: Jennifer Andrew
Chair: Sara Mills

SESSION CREATOR: Mills, Sara

SESSION TOPIC: S12 Magnetic and superconducting materials: From Basic Science to Applications

CLIENT SESSION ID: 326

SESSION NOTES TO ADMIN: Thursday, February 15, 2024; 2 - 5 p.m.

Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	3977948	EMA-S12-015-2024	Magnetism by design: Validating computational predictions of Heusler skyrmion hosts	Mozur, Eve	Contributed (Oral)	2:00 PM 2:15 PM	Accepted (12/05/2023)
2	3980127	EMA-S12-016-2024	Investigation of magnetic 2D Multiferroic metal thiophosphate materials	Susner, Michael	Invited (by Invitation Only)	2:15 PM 2:45 PM	Accepted (12/08/2023)
3	3985660	EMA-S12-017-2024	Efficient Control of 2D Magnets	Gong, Cheng	Invited (by Invitation Only)	2:45 PM 3:15 PM	Accepted (12/05/2023)
4			Break			3:15 PM 3:45 PM	
5	3983254	EMA-S12-018-2024	Pressure-Tuned Structural, Electronic, Magnetic, and Optical Properties of MPX_3 (X = S, Se)	Matsuoka, Takahiro	Invited (by Invitation Only)	3:45 PM 4:15 PM	Accepted (12/06/2023)
6	3981513	EMA-S12-019-2024	Combinatorial synthesis, crystal structure, and properties of magnetic and semiconducting MnSnN_2 thin films	Rom, Christopher	Contributed (Oral)	4:15 PM 4:30 PM	Accepted (12/20/2023)
7	3986036	EMA-S12-020-2024	Synthesis of new nitride material manganese cobalt nitride by RF co-sputtering	Dugu, Sita	Contributed (Oral)	4:30 PM 4:45 PM	Accepted (12/05/2023)
8	3986167	EMA-S12-021-2024	Magnetism of Rare Earth Nitride Perovskites	Smaha, Rebecca	Contributed (Oral)	4:45 PM 5:00 PM	Accepted (12/18/2023)

Session Information

SESSION TITLE: Symposium 14-Emerging semiconductor materials and interfaces

SESSION ABBREVIATION:

SESSION TYPE: Oral

SESSION START TIME: Thu 2/15/2024 2:00 PM

SESSION DURATION: 165

SESSION LOCATION: Colorado J

SESSION HOST: Chair: Hari Nair
Chair: Nidhin Kalarickal

SESSION CREATOR: McCurdy, Karen

SESSION TOPIC: S14 Emerging semiconductor materials and interfaces

CLIENT SESSION ID: 328

SESSION NOTES TO ADMIN: Thursday, February 15, 2024; 2 - 4:45 p.m.

Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	<u>3984646</u>	EMA-S14-017-2024	Atomic-scale insights into ultra-wide bandgap semiconductors for enhanced power electronics	Mazumder, Baishakhi	Invited (by Invitation Only)	2:00 PM 2:30 PM	Accepted (12/05/2023)
2	<u>3985254</u>	EMA-S14-018-2024	New Nitride Semiconductors and Heterostructures	Casamento, Joseph	Invited (by Invitation Only)	2:30 PM 3:00 PM	Accepted (12/11/2023)
3	<u>3983589</u>	EMA-S14-019-2024	Evaluating Transitions from Axial to Lateral Growth in GaN Nanowire	Yazdi, Sadegh	Contributed (Oral)	3:00 PM 3:15 PM	Accepted (12/04/2023)
4	<u>3984227</u>	EMA-S14-020-2024	Photoluminescence mapping of surface defects on β -Ga ₂ O ₃	McCluskey, Matthew	Contributed (Oral)	3:15 PM 3:30 PM	Accepted (12/04/2023)
5			Break			3:30 PM 4:00 PM	
6	<u>3985709</u>	EMA-S14-021-2024	Growth and Properties of P-type α -Cr ₂ O ₃ thin films for the High-temperature Operation of α -Cr ₂ O ₃ / β -Ga ₂ O ₃ P-N Heterojunction Diodes	Egbo, Kingsley	Contributed (Oral)	4:00 PM 4:15 PM	Accepted (12/05/2023)
7	<u>3999239</u>	EMA-S14-022-2024	A Study of the Phase Stabilization of α -Ga ₂ O ₃ Grown on R-plane Sapphire via MOCVD	Lee, Cheng-Han	Contributed (Oral)	4:15 PM 4:30 PM	Accepted (12/05/2023)
8	<u>4000439</u>	EMA-S14-023-2024	Compositional Defects and Ferroelectric Properties of Al _{1-x} Sc _x N: A First Principles Study	Bradford, Victoria	Contributed (Oral)	4:30 PM 4:45 PM	Accepted (12/12/2023)

Session Information							
SESSION TITLE: Symposium 16: Additively manufactured ceramics: characterizations and new applications							
SESSION ABBREVIATION:							
SESSION TYPE: Oral							
SESSION START TIME: Thu 2/15/2024 2:00 PM							
SESSION DURATION: 165							
SESSION LOCATION: Colorado H							
SESSION HOST: Chair: Andrew Allen							
Chair: Xiangfan Chen							
SESSION CREATOR: McCurdy, Karen							
SESSION TOPIC: S16 New Frontiers and Science in Additive Manufacturing of Ceramics Materials							
CLIENT SESSION ID: 330							
SESSION NOTES TO ADMIN: Thursday, February 15, 2024; 2 - 5:15 p.m.							
Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	<u>3984855</u>	EMA-S16-001-2024	In situ and ex situ studies of densification issues in ceramic additive manufacturing	Allen, Andrew	Invited (by Invitation Only)	2:00 PM 2:30 PM	Accepted (12/08/2023)
2	<u>3986992</u>	EMA-S16-002-2024	Micro-Printing of Ceramic Packaging for Sensor Integration	Schaedler, Tobias	Invited (by Invitation Only)	2:30 PM 3:00 PM	Accepted (12/05/2023)
3	<u>3987384</u>	EMA-S16-003-2024	Stereolithographic Additive Manufacturing of Ceramic Components with Functionally Modulated Structures	Kirihara, Soshu	Invited (by Invitation Only)	3:00 PM 3:30 PM	Invited
4			Break			3:30 PM 4:00 PM	
5	<u>4057557</u>	EMA-S16-004-2024	Advancing Energy Solutions through Innovative Ceramic Manufacturing: Highlights from ARPA-E Projects on Magnetic Materials and High-Temperature Heat Exchangers	Kim, Philseok	Invited (by Invitation Only)	4:00 PM 4:30 PM	Accepted (12/13/2023)
6	<u>4000498</u>	EMA-S16-005-2024	Additive manufacturing of bicontinuous piezocomposites based on triply periodic cellular micro-skeleton for tailorable hydrostatic performance	Song, Xuan	Contributed (Oral)	4:30 PM 4:45 PM	Accepted (12/05/2023)

Session Information							
SESSION TITLE: Symposium 18: Structure and function in high entropy, entropy stabilized and related oxides							
SESSION ABBREVIATION:							
SESSION TYPE: Oral							
SESSION START TIME: Thu 2/15/2024 2:00 PM							
SESSION DURATION: 180							
SESSION LOCATION: Colorado I							
SESSION HOST: Chair: Megan Butala							
SESSION CREATOR: McCurdy, Karen							
SESSION TOPIC: S18 Structure and Function in High-Entropy, Entropy-Stabilized, and Related Oxides							
CLIENT SESSION ID: 332							
SESSION NOTES TO ADMIN: Thursday, February 15, 2024; 2- 5 p.m.							
Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1			Introduction			2:00 PM 2:15 PM	
2	3985669	EMA-S18-001-2024	Structure-Property Tuning in Compositionally Complex Pyrochlore and Spinel Oxide Families	Page, Katharine	Invited (by Invitation Only)	2:15 PM 2:45 PM	Accepted (12/15/2023)
3	3986088	EMA-S18-002-2024	Probing Local Structure Transitions in High Entropy Fluorite Oxides using XANES	Bejger, Gerald	Contributed (Oral)	2:45 PM 3:00 PM	Accepted (12/12/2023)
4	3981630	EMA-S18-003-2024	Exploring new High-Entropy Oxides: Synthesizability and Mixability	Kirsch, Andrea	Invited (by Invitation Only)	3:00 PM 3:30 PM	Accepted (12/04/2023)
5			Break			3:30 PM 4:00 PM	
6	3981138	EMA-S18-004-2024	Enhanced Ionic Conductivity through Multication Doping of Ceria Oxides	Gager, Elizabeth	Contributed (Oral)	4:00 PM 4:15 PM	Accepted (12/12/2023)
7	3977001	EMA-S18-005-2024	Memristor Function From Tunable Carrier Transport and Dynamics in Entropy-Stabilized Oxides	Heron, John	Invited (by Invitation Only)	4:15 PM 4:45 PM	Accepted (12/01/2023)
8			Discussion			4:45 PM 5:00 PM	

Session Information							
SESSION TITLE: Symposium 1: Advances in scattering, imaging, and analytical techniques I							
SESSION ABBREVIATION:							
SESSION TYPE: Oral							
SESSION START TIME: Thu 2/15/2024 2:00 PM							
SESSION DURATION: 120							
SESSION LOCATION: Colorado E							
SESSION HOST: Chair: Chris Fancher							
SESSION CREATOR: McCurdy, Karen							
SESSION TOPIC: S1 Characterization of Structure Property Relationships in Functional Ceramics							
CLIENT SESSION ID: 334							
SESSION NOTES TO ADMIN: Thursday, February 15, 2024; 2 - 4 p.m.							
Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	<u>3985291</u>	EMA-S1-001-2024	High Performance Computing and AI Enabled Materials Characterization and Experimental Automation	Cherukara, Mathew	Invited (by Invitation Only)	2:00 PM 2:30 PM	Accepted (12/06/2023)
2	<u>3985052</u>	EMA-S1-003-2024	Using 3D- Δ PDFs from electron diffraction data to determine local structure	Schmidt, Ella	Invited (by Invitation Only)	2:30 PM 3:00 PM	Accepted (12/06/2023)
3	<u>4000081</u>	EMA-S1-005-2024	Cryogenic electron microscopy at the atomic scale: Applications and developments	El Baggari, Ismail	Invited (by Invitation Only)	3:00 PM 3:30 PM	Accepted (1/09/2024)
4			Break			3:30 PM 4:00 PM	

Session Information							
SESSION TITLE: Symposium 4: Phenomena arising from strain couplings and interface couplings							
SESSION ABBREVIATION: S4-e							
SESSION TYPE: Oral							
SESSION START TIME: Thu 2/15/2024 2:00 PM							
SESSION DURATION: 120							
SESSION LOCATION: Colorado B							
SESSION HOST: Chair: Dongkyu Lee							
Chair: Megan Holtz							
SESSION CREATOR: Jeen, Hyoungeen							
SESSION TOPIC: S4 Complex Oxide Thin Films & Heterostruct - From Synthesis to Strain/Interface-eng							
Emergent Prop							
CLIENT SESSION ID: 336							
SESSION NOTES TO ADMIN: Thursday, February 15, 2024; 2 - 4 p.m.							
Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	4000220	EMA- S4-024-2024	The New Horizons of Electron Microscopy	Idrobo, Juan	Invited (by Invitation Only)	2:00 PM 2:30 PM	Accepted (11/16/2023)
2	3985785	EMA- S4-025-2024	Hall anomaly driven by magnetic exchange interactions	Roy, Pinku	Contributed (Oral)	2:30 PM 2:45 PM	Accepted (11/16/2023)
3	3985826	EMA- S4-026-2024	Robust vortex state in a two-dimensional superconducting oxide heterostructure	Miao, Ludi	Contributed (Oral)	2:45 PM 3:00 PM	Accepted (12/14/2023)
4	3983676	EMA- S4-027-2024	Magnetism in iron oxide perovskites: Synthesis, stability and strain	Fowlie, Jennifer	Invited (by Invitation Only)	3:00 PM 3:30 PM	Accepted (12/09/2023)
5			Break			3:30 PM 4:00 PM	

Session Information							
SESSION TITLE: Symposium 5: Grain Boundary Structure and Mechanical Properties I							
SESSION ABBREVIATION: S5-1							
SESSION TYPE: Oral							
SESSION START TIME: Thu 2/15/2024 2:00 PM							
SESSION DURATION: 120							
SESSION LOCATION: Colorado G							
SESSION HOST: Chair: James Wollmershauser							
SESSION CREATOR: Wollmershauser, James							
SESSION TOPIC: S5 Controlling Grain Boundary Structure Chemistry and their Network as a Function of Mtl Processing							
CLIENT SESSION ID: 338							
SESSION NOTES TO ADMIN: Thursday, February 15, 2024; 2- 4 p.m.							
Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	3986060	EMA-S5-001-2024	Grain size dependence of mechanical properties of nanocrystalline magnesium aluminate $MgAl_2O_4$	Lee, Seok-Woo	Invited (by Invitation Only)	2:00 PM 2:30 PM	Accepted (11/18/2023)
2	3984743	EMA-S5-002-2024	Mobile dislocation mediated Hall-Petch and inverse Hall-Petch behaviors in nanocrystalline Al-doped boron carbide	An, Qi	Invited (by Invitation Only)	2:30 PM 3:00 PM	Accepted (11/21/2023)
3	3985658	EMA-S5-003-2024	Nanostructural Effects and Superhardness in Tungsten Carbide	Anderson, Kevin	Invited (by Invitation Only)	3:00 PM 3:30 PM	Accepted (11/28/2023)
4			Break			3:30 PM 4:00 PM	

Session Information

SESSION TITLE: Symposium 7: Point defect interaction with surfaces, grain boundaries and dislocations

SESSION ABBREVIATION:

SESSION TYPE: Oral

SESSION START TIME: Thu 2/15/2024 2:00 PM

SESSION DURATION: 195

SESSION LOCATION: Colorado C

SESSION HOST: Chair: Till Frömling
Chair: Roger De Souza

SESSION CREATOR: Frömling, Till

SESSION TOPIC: S7 Defects and transport in ceramics

CLIENT SESSION ID: 340

SESSION NOTES TO ADMIN: Thursday, February 15, 2024; 2 -5:15 p.m.

Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	4000112	EMA-S7-001-2024	Differentiating Surface and Bulk Defect Concentrations in Ceria-Zirconia Using Depth-Resolved XANES	Haile, Sossina	Invited (by Invitation Only)	2:00 PM 2:30 PM	Accepted (12/02/2023)
2	3984317	EMA-S7-002-2024	Oxygen Surface Exchange Coefficient of SrTiO ₃ : The Effect of Surface Orientation and Water	De Souza, Roger	Invited (by Invitation Only)	2:30 PM 3:00 PM	Accepted (12/01/2023)
3	3981879	EMA-S7-003-2024	High-Throughput Optical Relaxation Analysis of Crystallization and Surface Exchange Kinetics on Combinatorial Mixed Conducting Films	Popescu, Alexia	Contributed (Oral)	3:00 PM 3:15 PM	Accepted (11/29/2023)
4	3996633	EMA-S7-004-2024	Three-dimensional nanoscale measurement of oxygen in oxides using atom probe tomography	Diercks, David	Contributed (Oral)	3:15 PM 3:30 PM	Accepted (12/01/2023)
5			Break			3:30 PM 4:00 PM	
6	3985456	EMA-S7-005-2024	Spontaneous Polarization Versus Point Defect Chemistry in BaTiO ₃ Nanocrystals	Diwald, Oliver	Invited (by Invitation Only)	4:00 PM 4:30 PM	Accepted (11/28/2023)
7	3985942	EMA-S7-006-2024	Impedance Spectroscopy of Li ₂ OHCl Antiperovskite Solid Electrolytes: Grains vs. Grain Boundaries and In-Situ Synthesis Monitoring	Lan, Kai-Wei	Contributed (Oral)	4:30 PM 4:45 PM	Accepted (11/27/2023)
8	3989479	EMA-S7-007-2024	Changing photoelectric and surface properties of ceramics by introducing dislocations	Frömling, Till	Contributed (Oral)	4:45 PM 5:00 PM	Accepted (11/27/2023)
9	3986056	EMA-S7-008-2024	Toward near-zero chemical strains in mixed- and proton-conducting perovskites by tailoring bond architecture	Perry, Nicola	Contributed (Oral)	5:00 PM 5:15 PM	Accepted (12/12/2023)

Session Information							
SESSION TITLE: Symposium 1: Advances in scattering, imaging, and analytical techniques II							
SESSION ABBREVIATION:							
SESSION TYPE: Oral							
SESSION START TIME: Thu 2/15/2024 4:00 PM							
SESSION DURATION: 75							
SESSION LOCATION: Colorado E							
SESSION HOST: Chair: Di Wang							
SESSION CREATOR: McCurdy, Karen							
SESSION TOPIC: S1 Characterization of Structure Property Relationships in Functional Ceramics							
CLIENT SESSION ID: 342							
SESSION NOTES TO ADMIN: Thursday, February 15, 2024; 4 - 5:15 p.m.							
Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	<u>4000532</u>	EMA-S1-005-2024	Monochromated and Aberration-corrected STEM for Quantum Materials	Lupini, Andrew	Invited (by Invitation Only)	4:00 PM 4:30 PM	Accepted (12/13/2023)
2	<u>4000620</u>	EMA-S1-006-2024	In-situ Air-Free 4D-STEM Biasing of Model Batteries	Sternlicht, Hadas	Contributed (Oral)	4:30 PM 4:45 PM	Accepted (12/04/2023)
3	<u>4000041</u>	EMA-S1-007-2024	Polarization and Switching in Novel Ferroelectrics: Atomic -scale Analysis via Scanning Transmission Electron Microscopy	Dickey, Elizabeth	Invited (by Invitation Only)	4:45 PM 5:15 PM	Invited

Session Information							
SESSION TITLE: Symposium 5: Grain Boundary Structure and Mechanical Properties II							
SESSION ABBREVIATION: S5-2							
SESSION TYPE: Oral							
SESSION START TIME: Thu 2/15/2024 4:00 PM							
SESSION DURATION: 90							
SESSION LOCATION: Colorado G							
SESSION HOST: Chair: James Wollmershauser							
SESSION CREATOR: Wollmershauser, James							
SESSION TOPIC: S5 Controlling Grain Boundary Structure Chemistry and their Network as a Function of Mtl Processing							
CLIENT SESSION ID: 344							
SESSION NOTES TO ADMIN: Thursday, February 15, 2024, 4- 5:30 p.m.							
Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	3982491	EMA-S5-004-2024	Electric Current Effects on the Plastic Deformation Behavior and Grain Morphology of Pure Copper, Iron, and Titanium	Rudolf, Christopher	Invited (by Invitation Only)	4:00 PM 4:30 PM	Accepted (11/15/2023)
2	3979641	EMA-S5-005-2024	Probing the vibrations of individual dislocation cores in low-angle grain boundaries using monochromated electron energy-loss spectroscopy	Hachtel, Jordan	Invited (by Invitation Only)	4:30 PM 5:00 PM	Accepted (11/15/2023)
3	3984637	EMA-S5-006-2024	FIB-Based TEM Specimen Preparation for Characterizing Nanoscale Microstructures of Ceramics	Rommel, Sarshad	Invited (by Invitation Only)	5:00 PM 5:30 PM	Accepted (11/15/2023)

Session Information

SESSION TITLE: Symposim 16: Novel additive manufacturing processes of ceramics

SESSION ABBREVIATION:

SESSION TYPE: Oral

SESSION START TIME: Fri 2/16/2024 8:30 AM

SESSION DURATION: 240

SESSION LOCATION: Colorado H

SESSION HOST: Chair: Fei Peng
Chair: Xuan Song

SESSION CREATOR: McCurdy, Karen

SESSION TOPIC: S16 New Frontiers and Science in Additive Manufacturing of Ceramics Materials

CLIENT SESSION ID: 402

SESSION NOTES TO ADMIN: Friday, February 16, 2024; 8:30 a.m.- 12:30 p.m.

Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	<u>4000548</u>	EMA-S16-006-2024	High-throughput, Ultra-fast Laser Sintering of Ceramics and Machine-learning-Based Prediction on Processing-Microstructure-Property Relationships	Peng, Fei	Invited (by Invitation Only)	8:30 AM 9:00 AM	Accepted (12/07/2023)
2	<u>3999996</u>	EMA-S16-007-2024	From Flash Sintering to Ultrafast Sintering without an Applied Electric Field: Review of Mechanistic Studies and Discussion of Potential Relevance to Additive Manufacturing	Luo, Jian	Invited (by Invitation Only)	9:00 AM 9:30 AM	Accepted (12/05/2023)
3	<u>4000558</u>	EMA-S16-008-2024	Fabrication and characterization of CO ₂ laser-sintered silica-titania glass	Sarkar, Siddhartha	Contributed (Oral)	9:30 AM 9:45 AM	Accepted (12/07/2023)
4	<u>3983284</u>	EMA-S16-009-2024	Direct selective laser sintering of high-entropy carbide ceramics	Cui, Bai	Contributed (Oral)	9:45 AM 10:00 AM	Accepted (12/13/2023)
5			Break			10:00 AM 10:30 AM	
6	<u>4000712</u>	EMA-S16-010-2024	Influence of humidity and thermal aging on the flow and packing behaviour of powders for additive manufacturing	Kleba-Ehrhardt, Rafael	Invited (by Invitation Only)	10:30 AM 11:00 AM	Accepted (12/27/2023)
7	<u>4000494</u>	EMA-S16-011-2024	Hydrothermal-assisted Jet Fusion: A Selective Cold Sintering Approach	Song, Xuan	Invited (by Invitation Only)	11:00 AM 11:30 AM	Accepted (12/05/2023)
8	<u>3985646</u>	EMA-S16-012-2024	High-Speed and High-resolution 3D Printing of Neodymium-doped Yttrium Aluminum Garnet Ceramics with Optical Gain Properties	Chen, Xiangfan	Invited (by Invitation Only)	11:30 AM 12:00 PM	Accepted (12/12/2023)
9	<u>3983879</u>	EMA-S16-013-2024	Infrared Irradiation to Drive Phosphate Condensation as a Route to Direct Additive Manufacturing of Oxide Ceramics	Losego, Mark	Contributed (Oral)	12:00 PM 12:15 PM	Accepted (12/05/2023)
10	<u>3983618</u>	EMA-S16-014-2024	Additive Manufacturing of Thermochromic Oxide Ceramic Coatings via Inorganic Binder Condensation Using Flash Lamp Annealing	Ozmen, Eren	Contributed (Oral)	12:15 PM 12:30 PM	Accepted (12/06/2023)

Session Information							
SESSION TITLE: Symposium 12: Magnetism Session III							
SESSION ABBREVIATION:							
SESSION TYPE: Oral							
SESSION START TIME: Fri 2/16/2024 8:30 AM							
SESSION DURATION: 210							
SESSION LOCATION: Colorado A							
SESSION HOST: Chair: Connor Smith Chair: Michael Susner							
SESSION CREATOR: Mills, Sara							
SESSION TOPIC: S12 Magnetic and superconducting materials: From Basic Science to Applications							
CLIENT SESSION ID: 404							
SESSION NOTES TO ADMIN: Friday, February 16, 2024; 8:30 a.m. - 12 p.m.							
Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	3981004	EMA-S12-022-2024	3D Printing of Magnetic Materials and Devices	Lazarus, Nathan	Invited (by Invitation Only)	8:30 AM 9:00 AM	Accepted (12/07/2023)
2	3985906	EMA-S12-023-2024	Magnon engineering in YIG-based heterostructures - from strong coupling to short wavelength modes	Zhang, Wei	Invited (by Invitation Only)	9:00 AM 9:30 AM	Accepted (12/05/2023)
3	3980540	EMA-S12-024-2024	Electrophoretic deposition of iron oxide nanoparticles in various planar geometries for on-chip component fabrication	Mills, Sara	Contributed (Oral)	9:30 AM 9:45 AM	Accepted (12/05/2023)
4	3998793	EMA-S12-025-2024	Multiferroic-based Magnetic Control Valve for Switchless Direct Antenna Modulation	Carman, Greg	Invited (by Invitation Only)	9:45 AM 10:15 AM	Accepted (12/05/2023)
5			Break			10:15 AM 10:45 AM	
6	4015815	EMA-S12-026-2024	Microwave magnetodielectric materials and emerging applications	Chen, Yajie	Invited (by Invitation Only)	10:45 AM 11:15 AM	Accepted (12/05/2023)
7	3976652	EMA-S12-027-2024	Vitrovac/PZT Magnetoelectric Laminate Composites for Wireless Power Transfer for In-Vivo Biomedical Devices	Hall, Merissa	Contributed (Oral)	11:15 AM 11:30 AM	Accepted (12/13/2023)
8	3986507	EMA-S12-028-2024	Atomically thin superconducting PdTe ₂	Wu, Wenzhuo	Invited (by Invitation Only)	11:30 AM 12:00 PM	Accepted (12/05/2023)

Session Information							
SESSION TITLE: Symposium 1: Advances in connecting local and global structure to properties							
SESSION ABBREVIATION:							
SESSION TYPE: Oral							
SESSION START TIME: Fri 2/16/2024 8:30 AM							
SESSION DURATION: 120							
SESSION LOCATION: Colorado E							
SESSION HOST: Chair: Hadas Sternlicht							
SESSION CREATOR: McCurdy, Karen							
SESSION TOPIC: S1 Characterization of Structure Property Relationships in Functional Ceramics							
CLIENT SESSION ID: 406							
SESSION NOTES TO ADMIN: Friday, February 16, 2024, 8:30 - 10:30 a.m.							
Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	<u>3985582</u>	EMA-S1-008-2024	Semi and self supervised approaches to space group and bravais lattice determination	Ratcliff, William	Invited (by Invitation Only)	8:30 AM 9:00 AM	Accepted (12/05/2023)
2	<u>3978801</u>	EMA-S1-009-2024	Doped BiFe _{0.95} Co _{0.05} O ₃ Nanoparticles for Piezophotocatalysis	Dubey, Astita	Contributed (Oral)	9:00 AM 9:15 AM	Accepted (12/04/2023)
3	<u>3983689</u>	EMA-S1-010-2024	Practical Magnetic Measurements for Functional Ceramics	Mozur, Eve	Contributed (Oral)	9:15 AM 9:30 AM	Accepted (12/04/2023)
4	<u>4013692</u> (W)	EMA-S1-017-2024	Imaging Quantum Coherence using Electron Wavepackets	Kaminer, Ido	Invited (by Invitation Only)	9:30 AM 10:00 AM	Not Yet Invited
5			Break			10:00 AM 10:30 AM	

Session Information

SESSION TITLE: Symposium 5: Ionic effects and related phenomena

SESSION ABBREVIATION: S5-3

SESSION TYPE: Oral

SESSION START TIME: Fri 2/16/2024 8:30 AM

SESSION DURATION: 120

SESSION LOCATION: Colorado G

SESSION HOST: Chair: James Wollmershauser

SESSION CREATOR: Wollmershauser, James

SESSION TOPIC: S5 Controlling Grain Boundary Structure Chemistry and their Network as a Function of Mtl Processing

CLIENT SESSION ID: 408

SESSION NOTES TO ADMIN: Friday, February 16, 2024; 8:30 - 10:30 a.m.

Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	3984294	EMA-S5-007-2024	The Consequences of Space-Charge Zones for Short-Circuit Diffusion along Extended Defects	De Souza, Roger	Invited (by Invitation Only)	8:30 AM 9:00 AM	Accepted (11/22/2023)
2	3985417	EMA-S5-008-2024	Intergranular Chemistry and Functionality of Segregates inside Metal Oxide Nanoparticle Derived Ceramics	Diwald, Oliver	Contributed (Oral)	9:00 AM 9:15 AM	Accepted (11/24/2023)
3	3983431	EMA-S5-009-2024	A molecular-dynamics study of oxygen diffusion in polycrystalline (La,Sr)FeO ₃	Bonkowski, Alexander	Contributed (Oral)	9:15 AM 9:30 AM	Accepted (11/16/2023)
4	4000259	EMA-S5-010-2024	Grain boundary segregation in doped SrTiO ₃ – Impact on space charge, grain growth and conductivity	Zahler, Marc	Contributed (Oral)	9:30 AM 9:45 AM	Accepted (11/22/2023)
5	3985136	EMA-S5-011-2024	Reading between the grains of oxide-ion conductors: The thermal history of space-charge layers	Usler, Adrian	Contributed (Oral)	9:45 AM 10:00 AM	Accepted (11/19/2023)
6	3998809	EMA-S5-012-2024	Examining the effect of charge and size mismatch on the segregation behavior of dopants in BaZrO ₃	Ebert, Julian	Contributed (Oral)	10:00 AM 10:15 AM	Accepted (11/20/2023)
7			Break			10:15 AM 10:30 AM	

Session Information

SESSION TITLE: Symposium 7: Defect transport: measurement and computational methods

SESSION ABBREVIATION:

SESSION TYPE: Oral

SESSION START TIME: Fri 2/16/2024 8:30 AM

SESSION DURATION: 180

SESSION LOCATION: Colorado C

SESSION HOST: Chair: Nicola Perry
Chair: Till Frömling

SESSION CREATOR: Frömling, Till

SESSION TOPIC: S7 Defects and transport in ceramics

CLIENT SESSION ID: 410

SESSION NOTES TO ADMIN: Friday, February 16, 2024; 8:30 - 11:45 a.m.

Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	3985616	EMA-S7-009-2024	Understanding Phenomenological Properties of Dielectrics and Thermoelectrics in Terms of Defect Chemistry	Lee, Soonil	Invited (by Invitation Only)	8:30 AM 9:00 AM	Accepted (12/15/2023)
2	3981684	EMA-S7-010-2024	One stone, two birds: Using high electric fields to enhance the mobility and the concentration of point defects in ion-conducting solids	Kemp, Dennis	Contributed (Oral)	9:00 AM 9:15 AM	Accepted (11/28/2023)
3	3978845	EMA-S7-011-2024	Engineering surface dipoles on mixed conducting oxides with ultra-thin oxide decoration layers	Siebenhofer, Matthaeus	Contributed (Oral)	9:15 AM 9:30 AM	Accepted (11/27/2023)
4	3999477	EMA-S7-012-2024	Defects in $\text{Zn}_{1-x}\text{Mg}_x\text{O}$ Films and Their Influence on Ferroelectric Properties for Energy-Efficient Non-Volatile Memory Applications	Yousefian, Pedram	Contributed (Oral)	9:30 AM 9:45 AM	Accepted (12/12/2023)
5			Break			9:45 AM 10:15 AM	
6	4000379 (W)	EMA-S7-013-2024	Defects and transport in proton-conducting ceramics	Duan, Chuancheng	Invited (by Invitation Only)	10:15 AM 10:45 AM	Not Yet Invited
7	4000542	EMA-S7-014-2024	Polaron formation: A bottleneck in photoexcited electrons' transport in metal-oxides	Huda, Muhammad	Contributed (Oral)	10:45 AM 11:00 AM	Accepted (11/27/2023)
8	3981714	EMA-S7-015-2024	A molecular dynamics study of oxygen diffusion in brownmillerite $\text{Sr}_2\text{Fe}_2\text{O}_5$	Ambaum, Sonja	Contributed (Oral)	11:00 AM 11:15 AM	Accepted (11/29/2023)
9	3959852	EMA-S7-016-2024	In silico screening of effective dopants for improving insulation resistance in BaTiO_3	Kanagawa, Tomosato	Contributed (Oral)	11:15 AM 11:30 AM	Accepted (12/03/2023)

Session Information

SESSION TITLE: Symposium 8 – Data-driven and Model-supported Research of Structure-property Relationships in Complex Electroceramics

SESSION ABBREVIATION:

SESSION TYPE: Oral

SESSION START TIME: Fri 2/16/2024 8:30 AM

SESSION DURATION: 150

SESSION LOCATION: Colorado D

SESSION HOST: Chair: Antonio Feteira

SESSION CREATOR: McCurdy, Karen

SESSION TOPIC: S8 Data-driven & Model-supported Research of Struc prop Relationship in Complex Electroceram

CLIENT SESSION ID: 412

SESSION NOTES TO ADMIN: Friday, February 16, 2024; 8:30 - 11 a.m.

Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	3976969	EMA-S8-001-2024	Processing-composition-structure effects on the optical band-gap of ferroelectric KNbO ₃ -based ceramics	Pascual-Gonzalez, Cristina	Invited (by Invitation Only)	8:30 AM 9:00 AM	Accepted (11/28/2023)
2	3982310	EMA-S8-002-2024	Functional Inorganics Driven by Immiscibility	Hall, David	Invited (by Invitation Only)	9:00 AM 9:30 AM	Accepted (12/12/2023)
3	3985276	EMA-S8-003-2024	Integrating multiscale microscopy and machine learning to understand low-temperature degradation in yttria-stabilized zirconia	Mazumder, Baishakhi	Invited (by Invitation Only)	9:30 AM 10:00 AM	Accepted (11/27/2023)
4			Break			10:00 AM 10:30 AM	
5	3982431 (W)	EMA-S8-005-2024	Insights into the early size effects of the lead-free piezoelectric Ba _{0.85} Ca _{0.15} Zr _{0.1} Ti _{0.9} O ₃	Amorín, Harvey	Contributed (Oral)	10:30 AM 10:45 AM	Not Yet Invited
6	3986041	EMA-S8-006-2024	Revisiting the Impact of Doping and Sample Thickness on the Electric-Field Induced Strain in Lead-Free (K _{0.5} Na _{0.5})NbO ₃ -based ceramics	Wasim, Muhammad	Contributed (Oral)	10:45 AM 11:00 AM	Accepted (11/28/2023)

Session Information

SESSION TITLE: Symposium 9- Machine Learning and Automated Synthesis/Characterization for Novel Materials

SESSION ABBREVIATION:

SESSION TYPE: Oral

SESSION START TIME: Fri 2/16/2024 8:30 AM

SESSION DURATION: 225

SESSION LOCATION: Colorado B

SESSION HOST: Chair: Yongtao Liu
Chair: Jian Lin

SESSION CREATOR: McCurdy, Karen

SESSION TOPIC: S9 Machine learning and automated synthesis/characterization for novel materials

CLIENT SESSION ID: 414

SESSION NOTES TO ADMIN: Friday, February 16, 2024; 8:30 - 12:15 p.m.

Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	3984985	EMA-S9-001-2024	Autonomous Atomic Layer Synthesis via Combinatorial Pulsed Laser Deposition	Takeuchi, Ichiro	Invited (by Invitation Only)	8:30 AM 9:00 AM	Accepted (12/11/2023)
2	3983964	EMA-S9-002-2024	Rapid Material Spectra Identification with a Transferable Vision Transformer Model	Xie, Yunchao	Contributed (Oral)	9:00 AM 9:15 AM	Accepted (11/30/2023)
3	3981139	EMA-S9-003-2024	Deep Learning Workflows for Microstructural Characterization of Materials	Bordas, Alexandre	Contributed (Oral)	9:15 AM 9:30 AM	Accepted (11/15/2023)
4	3971706	EMA-S9-004-2024	Accelerated Materials Discovery Enabled by an End-to-End Autonomous Fluidic Lab	Abolhasani, Milad	Invited (by Invitation Only)	9:30 AM 10:00 AM	Accepted (11/15/2023)
5			Break			10:00 AM 10:30 AM	
6	3985839	EMA-S9-005-2024	Automated Microscopy for Domain Wall Physics	Vasudevan, Rama	Invited (by Invitation Only)	10:30 AM 11:00 AM	Accepted (11/30/2023)
7	3986163	EMA-S9-006-2024	Refining Solvation Free Energy Predictions in VaspSol Through Optimization	Florez, Sean	Contributed (Oral)	11:00 AM 11:15 AM	Accepted (12/11/2023)
8	3984844	EMA-S9-007-2024	From automated to autonomous synthesis of inorganic thin film materials	Zakutayev, Andriy	Invited (by Invitation Only)	11:15 AM 11:45 AM	Accepted (12/12/2023)
9	4039741	EMA-S9-008-2024	Quantitative nano-ionic dynamics via functional AFM and Gaussian process optimization	Checa, Marti	Invited (by Invitation Only)	11:45 AM 12:15 PM	Invited

Session Information

SESSION TITLE: Symposium 18-Structure and function in high entropy, entropy stabilized and related oxides
 SESSION ABBREVIATION:
 SESSION TYPE: Oral
 SESSION START TIME: Fri 2/16/2024 8:45 AM
 SESSION DURATION: 210
 SESSION LOCATION: Colorado I
 SESSION HOST: Chair: Valentino Cooper
 SESSION CREATOR: McCurdy, Karen
 SESSION TOPIC: S18 Structure and Function in High-Entropy, Entropy-Stabilized, and Related Oxides
 CLIENT SESSION ID: 416
 SESSION NOTES TO ADMIN: Friday, February 16, 2024; 8:45 a.m. - 12:15 p.m.

Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	3985997	EMA-S18-006-2024	Designing frustration and metastable magnetism in single crystal compositionally complex oxides	Ward, Thomas	Invited (by Invitation Only)	8:45 AM 9:15 AM	Accepted (12/04/2023)
2	3964660	EMA-S18-007-2024	Spin, charge, and lattice degrees of freedom in high entropy oxides	Mazza, Alessandro	Contributed (Oral)	9:15 AM 9:30 AM	Accepted (12/01/2023)
3	3984046	EMA-S18-008-2024	Short range ordering in entropy stabilized oxides with the α -PbO ₂ structure	Aamlid, Solveig	Invited (by Invitation Only)	9:30 AM 10:00 AM	Accepted (12/13/2023)
4	3984521	EMA-S18-009-2024	Hierarchical Length-Scale Structure Effects of Cation Substitution in Lithium-Excess Disordered Rocksalt Oxides	Langhout, John	Contributed (Oral)	10:00 AM 10:15 AM	Accepted (12/01/2023)
5			Break			10:15 AM 10:45 AM	
6	3982642	EMA-S18-010-2024	Understanding the limits to Short-range order Suppression in Many-Component Disordered Rock Salt Lithium-ion Cathode Materials	Squires, Alex	Invited (by Invitation Only)	10:45 AM 11:15 AM	Accepted (12/01/2023)
7	3985128	EMA-S18-011-2024	Mg _{1/5} Co _{1/5} Ni _{1/5} Cu _{1/5} Zn _{1/5} O: Growth Kinetics and Nanostructures	Almishal, Saeed	Contributed (Oral)	11:15 AM 11:30 AM	Accepted (12/05/2023)
8	3999486	EMA-S18-012-2024	Oxygen vacancy formation energetics in MgO-based high entropy oxides from DFT and experimental validation	Aidhy, Dilpuneet	Contributed (Oral)	11:30 AM 11:45 AM	Accepted (12/15/2023)
9			Panel Discussion- Invited speakers moderated by symposium organizers			11:45 AM 12:15 PM	

Session Information							
SESSION TITLE: Symposium 1: Addressing open questions in functional ceramics							
SESSION ABBREVIATION:							
SESSION TYPE: Oral							
SESSION START TIME: Fri 2/16/2024 10:30 AM							
SESSION DURATION: 120							
SESSION LOCATION: Colorado E							
SESSION HOST: Chair: Eve Mozur							
SESSION CREATOR: Sternlicht, Hadas							
SESSION TOPIC: S1 Characterization of Structure Property Relationships in Functional Ceramics							
CLIENT SESSION ID: 418							
SESSION NOTES TO ADMIN: Friday, February 16, 2024, 10:30 a.m. - 12:30 p.m.							
Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	4000522	EMA-S1-011-2024	Constraining the Size of Chemical Nanoregions in Barium Zirconate-Titanate Relaxors	Evans, Charles	Contributed (Oral)	10:30 AM 10:45 AM	Accepted (12/20/2023)
2	4001994	EMA-S1-012-2024	Phase formation Anomalies in Me ²⁺ -Aluminates	Gulgun, Mehmet	Contributed (Oral)	10:45 AM 11:00 AM	Accepted (12/13/2023)
3	3984276	EMA-S1-013-2024	On the structures and tunable functionalities in engineered perovskite materials	Wang, Di	Invited (by Invitation Only)	11:00 AM 11:30 AM	Accepted (12/12/2023)
4	3985789	EMA-S1-014-2024	Local disorder in compositionally complex triple conducting oxides with neutron total scattering	Cladek, Bernadette	Invited (by Invitation Only)	11:30 AM 12:00 PM	Accepted (12/06/2023)
5	3985396	EMA-S1-015-2024	Structure-property relationships in polar perovskite oxides	Khansur, Neamul	Contributed (Oral)	12:00 PM 12:15 PM	Accepted (12/13/2023)
6	3985347	EMA-S1-016-2024	Optimization of SiC/CNFs Composites for High-Temperature Applications: Experimental and Molecular Dynamics Study	Shaik, Mubina	Contributed (Oral)	12:15 PM 12:30 PM	Accepted (12/13/2023)

Session Information

SESSION TITLE: Symposium 5: Processing effects

SESSION ABBREVIATION: S5-4

SESSION TYPE: Oral

SESSION START TIME: Fri 2/16/2024 10:30 AM

SESSION DURATION: 120

SESSION LOCATION: Colorado G

SESSION HOST: Chair: Hadas Sternlicht

SESSION CREATOR: Wollmershauser, James

SESSION TOPIC: S5 Controlling Grain Boundary Structure Chemistry and their Network as a Function of Mtl Processing

CLIENT SESSION ID: 420

SESSION NOTES TO ADMIN: Friday, February 16, 2024; 10:30 a.m. - 12:30 p.m.

Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	<u>3986237</u>	EMA-S5-013-2024	Grain Boundary Chemistry of Ceramics Fabricated by Selective Laser Sintering	Cui, Bai	Invited (by Invitation Only)	10:30 AM 11:00 AM	Accepted (12/04/2023)
2	<u>4001084</u>	EMA-S5-014-2024	CuCr ₂ O ₄ Particle Growth and Evolution Across Sol-gel Routes and Calcination Profiles	Reimanis, Ivar	Contributed (Oral)	11:00 AM 11:15 AM	Accepted (11/23/2023)
3	<u>4000567</u>	EMA-S5-015-2024	Bridging Mesoscale and Engineering Scale in Pressure-assisted Sintering Modeling	Hermawan, Danny	Contributed (Oral)	11:15 AM 11:30 AM	Accepted (12/12/2023)
4	<u>4015807</u>	EMA-S5-016-2024	Low temperature SPS sintering of SrTiO ₃ : Taking advantage of novel processing techniques for grain boundary engineering in functional ceramics	Zahler, Marc	Contributed (Oral)	11:30 AM 11:45 AM	Accepted (11/22/2023)
5	<u>4001090</u>	EMA-S5-017-2024	Microstructure of Solid Solutions between CeO ₂ and Y ₂ O ₃	Hopkins, Alex	Contributed (Oral)	11:45 AM 12:00 PM	Accepted (11/16/2023)
6	<u>4000604</u>	EMA-S5-018-2024	Anisotropic Grain Growth in Polycrystalline Films	Hermawan, Danny	Contributed (Oral)	12:00 PM 12:15 PM	Accepted (12/12/2023)
7	<u>3989196</u>	EMA-S5-019-2024	Avenues for Forming High Grain Boundary Network Ceramics with Novel Properties	Wollmershauser, James	Contributed (Oral)	12:15 PM 12:30 PM	Accepted (11/15/2023)

Session Information							
SESSION TITLE: Symposium 19: Failure							
SESSION ABBREVIATION:							
SESSION TYPE: Oral							
SESSION START TIME: Fri 2/16/2024 2:00 PM							
SESSION DURATION: 90							
SESSION LOCATION: Colorado E							
SESSION HOST: Chair: Geoff Brennecka							
SESSION CREATOR: McCurdy, Karen							
SESSION TOPIC: S19 Failure The Greatest Teacher							
CLIENT SESSION ID: 422							
SESSION NOTES TO ADMIN: Friday, February 16, 2024; 2 - 3:30 p.m.							
Order	Control ID	Final ID	Title	Presenting Author	Presentation Type	Start/end time	Invitation Status
1	<u>4014755</u>	EMA-S19-001-2024	It's what you know for sure that just ain't so	Stevanovic, Vladan	Invited (by Invitation Only)	2:00 PM 2:45 PM	Accepted (11/14/2023)
2	<u>4014759</u>	EMA-S19-002-2024	Cook and look or think and drink: Solid state synthesis of powder, microstructures, researchers and careers	Rheinheimer, Wolfgang	Invited (by Invitation Only)	2:45 PM 3:30 PM	Accepted (11/14/2023)

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37 Rb 85.478 Rubidium	38 Sr 87.62 Strontium	39 Y 88.90585 Yttrium	40 Zr 91.224 Zirconium	41 Nb 92.90638 Niobium	42 Mo 95.96 Molybdenum	43 Tc 98.906 Technetium	44 Ru 101.07 Ruthenium	45 Rh 102.9055 Rhodium	46 Pd 106.42 Palladium	47 Ag 107.8682 Silver	48 Cd 112.411 Cadmium	49 In 114.818 Indium	50 Sn 118.71 Tin	51 Sb 121.76 Antimony	52 Te 127.6 Tellurium	53 I 126.90447 Iodine	54 Xe 131.293 Xenon
55 Cs 132.90545 Cesium	56 Ba 137.327 Barium	57 La 138.90547 Lanthanum	72 Hf 178.48 Hafnium	73 Ta 180.948 Tantalum	74 W 183.84 Tungsten	75 Re 186.207 Rhenium	76 Os 190.23 Osmium	77 Ir 192.217 Iridium	78 Pt 195.084 Platinum	79 Au 196.966569 Gold	80 Hg 200.59 Mercury	81 Tl 204.3833 Thallium	82 Pb 207.2 Lead	83 Bi 208.9804 Bismuth	84 Po (209) Polonium	85 At (210) Astatine	86 Rn (222) Radon
87 Fr (223) Francium	88 Ra (226) Radium	89 Ac (227) Actinium	104 Rf (267) Rutherfordium	105 Db (268) Dubnium	106 Sg (271) Seaborgium	107 Bh (272) Bohrium	108 Hs (270) Hassium	109 Mt (276) Meitnerium	110 Ds (281) Darmstadtium	111 Rg (280) Roentgenium	112 Cn (285) Copernicium	113 Nh (284) Nihonium	114 Fl (289) Flerovium	115 Mc (288) Moscovium	116 Lv (293) Livermorium	117 Ts (294) Tennessine	118 Og (294) Oganesson
58 Ce 140.116 Cerium	59 Pr 140.90765 Praseodymium	60 Nd 144.242 Neodymium	61 Pm (145) Promethium	62 Sm 150.36 Samarium	63 Eu 151.964 Europium	64 Gd 157.25 Gadolinium	65 Tb 158.92535 Terbium	66 Dy 162.5 Dysprosium	67 Ho 164.93032 Holmium	68 Er 167.259 Erbium	69 Tm 168.93421 Thulium	70 Yb 173.054 Ytterbium	71 Lu 174.967 Lutetium				
90 Th 232.0377 Thorium	91 Pa 231.03688 Protactinium	92 U 238.02891 Uranium	93 Np 237 Neptunium	94 Pu 244 Plutonium	95 Am 243 Americium	96 Cm 247 Curium	97 Bk 247 Berkelium	98 Cf 251 Californium	99 Es 252 Einsteinium	100 Fm 257 Fermium	101 Md 258 Mendelevium	102 No 259 Nobelium	103 Lr 262 Lawrencium				

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