# Thermal Measurement Workshop

## Course Outline

- Thermal Stability
  - Definition
  - Thermodynamic Principles
  - Chemical Bonding
  - Application to Ceramics and Refractories
- Heat Capacity
  - Definition
  - Dulong and Petit Model
  - Einstein Model
  - Debye Model
  - Electronic Contributions
  - Structural Aspects
  - Application to Ceramics and Refractories
  - Measurement Techniques
- Thermal Conductivity
  - Definition
  - Phonon Conductivity
  - Structural Aspects of Phonon Conductivity
  - Photon Conductivity
  - Structural Aspects of Photon Conductivity
  - Application to Ceramics and Refractories
  - Measurement Techniques
- Thermal Expansion
  - Definition
  - Bonding and Potential Energy
  - Equation of State of Solids
  - Structural Aspects of Thermal Expansion
  - Application to Ceramics and Refractories
  - Measurement Techniques
- Thermal Shock
  - Definition
  - Thermal Stresses
  - Thermal Shock Theory
  - Application to Ceramics and Refractories
  - Measurement Techniques

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