Contribution ID: **459** Type: **Contributed Oral Presentation**

Thermal Contraction of Electrical Insulators

Monday, 29 June 2015 11:30 (15 minutes)

The thermal contraction from room temperature to 4 K of electrical insulation materials has been measured using a modified Invar 36 rod-in-tube dilatometer.The test assembly permitted independent measurement, simultaneously, of two samples. This permitted the use of a reference and an insulation sample for each thermal run. Materials that were measured included a conventional epoxy resin, Kapton film, and a series of glass/epoxy resin, glass/polyimide resin, and glass/ epoxy resin/Kapton laminates. The glass contents of the glass/epoxy resin laminates were varied to obtain the dependency of thermal contraction on volume percent glass. Data are compared to previous measurements and the laminate data are presented as a function of temperature and volume percent glass.

Primary author: Dr REED, Richard (Cryogenic Materials, Inc.)

Co-authors: Mr MCRAE, Dustin (National High Magnetic Field Laboratory); Mr WALSH, Robert (National High Magnetic Field Laboratory)

Presenter: Dr REED, Richard (Cryogenic Materials, Inc.)

Session Classification: M1OrB - Cryogenic Materials I: Testing and Methods

Track Classification: ICMC-12 - Insulation and Impregnation Materials