Thermal Analysis Methods applied to Kinetics, Failure Analysis, and Service Lifetime Prediction

September 26, 2103 at NIST Gaithersburg, MD

Chairs: Larry Judovits (Arkema) & Maria LaTorre (GE Global Research)

Start Time	PROGRAM
8:00	Set Up
8:10	Breakfast
8:30	Opening Remarks, L. Judovits (Arkema)
8:35	An Introduction to Lifetime Testing by Thermogravimetry, R. Blaine (Retired)
9:00	Introduction to Modulated Temperature Measurements, G. Slough (TA Instruments)
9:25	Temperature Index by m-TGA, J. Xu, (GE Power & Water)
9:50	Break
10:30	Stability estimation and life time prediction using Model Free Kinetics, TOPEM and Fast Scanning Calorimetry, J. Schawe (Mettler-Toledo)
11:00	Comparison of lifetime predictions based on different kinetic methods, E. Moukhina (Netzsch)
11:25	Prediction of Thermal Aging of Materials by Modified Kinetic Analysis Based on Limited Amount of Experimental Points, B. Roduit, M. Hartmann, P. Folly, A. Sarbach, P. Guillaume, L. Jeunieau, H. Haupt (AKTS Inc)
11:50	Lunch
1:00	Melting and crystallization of UHMWPE Fibers using Extremely Fast Heating and Cooling Rates, S. Sauerbrunn, J. Dietzel (CCM)
1:25	Identifying failures in power electronic modules using thermal effects, P. McCluskey, A. Hefner and M. Hernandez-Mora, (CALCE)
1:50	Thermal Analysis to support in-Service Life Prediction, A. Forster (NIST)
2:15	Rationale and Strategy for Utilizing Analytical Test Methods in UL Long Term Thermal Aging Program, J. T. Chapin, G. J. Fechtmann, N. P. Navarro (UL)
2:40	Break
3:20	Arrhenius-driven Accelerated Life Testing and Life-stress Modeling of Semiconductor Devices For Challenging Aerospace Applications, B. Winkel, R. Lewis (Northrop Grumman)
3:45	Exponent Thermal Analysis as a Useful Tool for Failure Analysis of Polymers: A Few Case Studies, S. Chen (Exponent, Inc.)
4:10	A comparison of direct methods to determine n-th order kinetic parameters of solid thermal decomposition for use in fire models, R. E. Lyon, N. Safronava (FAA)
4:35	ASTM and Committee E37 on Thermal Measurements, T. O'Toole (ASTM International)