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Measuring heat at the nanoscale

ABSTRACT

A quantity seldomly measured during nanoscale processes is the heat released or required by a process, and yet it gives key information about these processes because it measures directly how the energy of the system evolves. Much like differential scanning, calorimetry, nanocalorimetry is a technique where very thin layers are deposited on a membrane and are scanned in temperature, here at up to 1 million degrees per second, transforming small amounts of heat into measurable power. The technique can be applied in situ, avoiding exposition to ambient or starting at low temperature. In this presentation, we will review some of the applications of the technique, from measuring melting point and Curie temperature depression in nanostructures to the relaxation in amorphous silicon, to solid-state reactions in ultra-thin films.

DATE: WEDNESDAY, 26th February 2014
TIME: 2:30 p.m.
LOCATION: PAB Room 100

Host: Dr. Lyudmila Goncharova