

**Analysis of Thermal Effects in TESLA SRF Cavities using Surface Scanning Thermometers,**  
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DESY Hamburg (Germany) - Scanning surface thermometers have been successfully used as diagnostic probes on TESLA SRF multicell cavities in HeII. An array of 116 thermometers is currently used for cavities preliminary tests in a vertical cryostat. Some interesting thermal effects at the cavity surface have been observed. Heating created by electron emission and/or quenches were recorded during the tests showing large temperature signals. In order to analyse these results, a special calibration chamber was developed allowing to evaluate the thermometers efficiency at high heat flux. Temperature maps can be analysed using this calibration and the experimental results compared to numerical simulation results using a Finite Element thermal code. Also are presented experimental data on Kapitza resistance and critical heat measured with the same calibration cell.