**Correcting for Imperfect Boundaries in the Transient Plane Source Slab Method**

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The Transient Plane Source (TPS) measurement method applied to slab samples is reviewed. The slab method applies to radially infinite but axially bounded samples and assumes an insulative boundary condition at the axial ends of the samples. The insulative boundary condition is replaced by a change-in-medium boundary condition and a new expression for the temperature rise of the sensor is developed. This is done for perfect contact between media and for the case of contact resistance. The expected temperature change is calculated for a few example measurements. Measurements on typical slab samples with different insulating materials are used to verify the equations presented. Measurements are also demonstrated on slab samples that are more insulative than allowed by the standard TPS slab method. Applications of the correction are discussed.