

Thermal Properties of Soils and Their Relationship with Moisture Content

G. Vera, A. G. Juárez, A. Calderón^{C, S}, J. A. I. D. Gongora and E. Marín

*Centro de Investigación en Ciencia Aplicada y Tecnología Avanzada, Instituto Politécnico Nacional, México,
DF, México
jcalderona@ipn.mx*

A microprocessor controlled measurement device is described allowing the in-situ measurement of thermal properties of soils such as thermal diffusivity and effusivity. The measurement method is based on thermal wave physics and made use of the periodical natural temperature fluctuations taking place at the earth surface. The results of experiments performed in different soil kinds are presented as well as a study of the relationship between soil thermal properties and moisture content.