Bekir S. Yilbas and **M. Kassas**, "Investigation Into The Seebeck Coefficient in Two-Layer Assembly During Laser Short-Pulse Heating", Japanese **Journal** of Applied Physics, Vol. 44, No. 8, Aug. 5, 2005, pp. 6068-6074.

ABSTRACT

In this research, laser short pulse heating of three layer assembly, consisting of Au-Cr-Cu, is examined. Electron and lattice site temperature rise in each layer is predicted using an electron lattice theory approach. Three dimensional heating situation is accommodated in the model study. The Seebeck coefficient in each layer is computed and compared with the results of previously obtained equation. It is found that electron temperature distribution varies in each layer and this variation effects lattice site temperature distribution. Lattice site temperature distribution in the radial direction is not influenced by the diffusional energy transport in the radial direction. Abrupt changes in the Seebeck coefficient across chromium and copper layers are observed.