

**PREPARATION AND CHARACTERIZATION OF NANOFLUIDS
CONTAINING ALUMINA PARTICLES**

Alpaslan Turgut ⁽¹⁾, Ismail Tavman ⁽¹⁾, Levent Cetin ⁽¹⁾, Mihai Chirtoc ⁽²⁾ and Olivier Fudym ⁽³⁾

⁽¹⁾Dokuz Eylul University, Mechanical Engineering Department
Bornova, Izmir, 35100 Turkey

⁽²⁾Université de Reims Champagne Ardenne URCA,
GRESPI, Multiscale Thermophysics Lab.,

Moulin de la Housse BP 1039, Reims, 51687 France

⁽³⁾Ecole Mines Albi, CNRS, UMR 2392, RAPSODEE,
Albi, 81013 France

SUMMARY. This paper reports an experimental work on the measurements of thermal conductivity and viscosity of Al₂O₃-water and Al₂O₃-ethylene glycol nanofluids. Results show that thermal conductivity values are within the limits of Maxwell model while viscosity increases dramatically with increasing particle concentration and decreases with increasing temperature. However, the relative viscosity is independent of temperature. Also pH, particle size and zeta potential of nanofluid samples are characterized.