INVERSE HEAT TRANSFER PROBLEM
FOR NATURAL CONVECTION WITH RADIATION

Yun Ky Hong[*], Seung Wook Baek[*] and Man Young Kim[**]

[*]Department of Aerospace Engineering
School of Mechanical, Aerospace and Systems Engineering
Korea Advanced Institute of Science and Technology,
373-1, Kusong-Dong, Yusung-Gu, Taejon 305-701, Korea
[**] Department of Aerospace Engineering
Chonbuk National University, 664-14, Duckjin-Dong, Duckjin-Gu, Jeonju, Chonbuk 561-756, Korea

ABSTRACT. Inverse thermal problem is applied to natural convective flow with radiation. The bottom wall temperature distribution is estimated by using gas temperature measurements in the flow field. The inverse problem is solved through a minimization of an objective function by using the conjugate gradient method. The effects of the measurement errors and the positions are studied.