

STEFAN PROBLEM IN A SEMITRANSSPARENT MEDIUM AT DIFFERENT ABSORPTION ABILITIES OF BOUNDARIES¹

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ABSTRACT. The one-phase Stefan problem is studied numerically in a layer of semitransparent medium with different emissivity degrees at the right, moving boundary. The effect of optic properties of irradiated surface on formation of the temperature and radiation flux fields is shown.

KEYWORDS: radiative-conductive heat transfer, phase transition of the 1st kind, Stefan problem, density of resultant radiation flux, coefficients of reflection, transmission, and absorption, and emissivity degree.