

1E03: THERMODYNAMIC AND TRANSPORT PROPERTIES OF METAL/INERT-GAS MIXTURES USED FOR ARC WELDING.

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Comment by Pedro Garcia-Ybarra, UNED, Spain

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The expressions for the mass transport of species you have shown contain indeed the thermal-diffusion cross mass transport contributions; however you did not show any computation of the corresponding coefficients. Do you think that this mechanism is not relevant to the study of arc welding?

Reply by Thomas Hoffmann

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Using our transport model we are able to calculate the thermal diffusion coefficients and they will be taken into account for CFD-calculations. In this study we are primarily interested in validation of the model. The intention is to show, that the transport model gives accurate results. Therefore we focus on transport properties which are well characterized by other research groups like the electrical and the thermal conductivity.