MAXIMUM ENTROPY PRINCIPLE APPROACH TO A NON-ISOTHERMAL MAXWELL-STEFAN DIFFUSION MODEL

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This study focuses on the application of the maximum entropy principle to derive the appropriately scaled velocity distribution function used to derive Maxwell-Stefan type diffusion models from systems of reactive and non-reactive Boltzmann equations of the classical kinetic theory of gases. Using the scaled distribution function derived, we analyzed the entropy balance law, derived the kinetic entropy production and the non-isothermal Maxwell-Stefan diffusion model.