MODELING DYNAMIC VISCOSITY OF Ar PLASMA IN A TWO-TEMPERATURE REGIME

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Abstract: *A model based on the Chapman-Enskog method was developed in order to determine two-temperature (2T) viscosity of argon atmospheric plasma versus the electron temperature for three different values of $\theta = T_e / T_h$. Calculations were made in the assumption that chemical equilibrium is established and that the kinetic electron temperature T_e is different from that of heavy species T_h. Our model is based on the hypothesis that the heavy species and electrons are coupled. The results are in good agreement with those found by other authors.*