

**TWO TEMPERATURES ARGON PLASMA MODEL
FOR THERMAL CONDUCTIVITIES**

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Abstract: *Using the most recent data to calculate the collision integrals, based on the Chapman-Enskog method, a model similar with that of Devoto, was developed in order to determine two-temperature (2T) thermal conductivity coefficients of an argon atmospheric plasma versus the electron temperature for three different values of $\theta = T_e/T_h$. An interesting changes in the dependence on $q = T_e/T_h$ of total thermal conductivity was observed. This might be explained from the different profiles found for the temperature dependence of electron thermal conductivity, heavy species thermal conductivity and reaction thermal conductivity, respectively. The results are in good agreement with the other similar ones published in the literature.*