

# **THERMOS Toolkit: spectral characteristics of matter and EOS for RHD calculations**

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Modeling the dynamics of a radiating plasma by the methods of RHD depends on the spectral absorption and emissivity coefficients, as well as the equation of state in a wide range of temperatures and densities. The THERMOS software package, based on quantum-statistical models for an atomic cell and on the collisional-radiative model for the populations of ion states, makes it possible to calculate the required data. This paper provides a detailed description of the capabilities of the THERMOS software package and some examples of use.

Calculations were performed on the hybrid supercomputer K-100 installed in the Supercomputer Centre of Collective Usage of KIAM RAS and MVS-10P JSCC RAS.