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**Analytical structure of stationary radiative shocks in polars**

EMERIC FALIZE, SERGE BOUQUET, CEA-LUTH, CLAIRE MICHAUT, CECILE CAVET, LUTH, MICHEL KOENIG, ALESSANDRA RAVASIO, LULI — Radiating shocks are very common in astrophysics. We may find them in accretion objects but also in InterStellar Medium [ISM] (bow shocks, supernova remnants). Moreover, the prediction of the structure of the post-shock zone is crucial to understand the evolution of accreted plasmas and ISM, as well. In this paper, we will present the general analytical solution for the stationary radiating shock problem. After having discussed the fundamental physics of this type of shock and explained their location in Drake diagram with our radiation approximation, we present the analytical solutions of generalized power law cooling functions where we introduce the possibility of local dependence that allows to include phenomena arising in optical thick regimes. We will construct the scaling laws of radiative shocks in polars context and study the possibility to reproduce them in laboratory.

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