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【209】 Rapid radial profiles simulation and scenario optimization on tokamak discharges using the RAPTOR code

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A key issue in controlled thermonuclear fusion research is to predict and optimize the plasma behavior in the reactor core. In this work, we use the RAPTOR code, a fast and light simulator of the current density and heat 1D radial transport equations, to identify future scenarios for tokamak discharges. To do so, a first phase is needed where we aim to improve the robustness and flexibility of our model, comparing results with experimental datasets and minimizing the need for user specification and experimental measurement. The final goal is to perform simulation and optimization of whole plasma discharges both before (pre-shot) and during (real-time) experiments.

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