

Seminário, Quinta 12/09/2024 14:00h

Local: Auditório DRCC

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Title: Smooth reheating via non-Abelian dark sector

**Abstract:** We consider a model, where a single inflaton interacts weakly as an axion with Yang-Mills gauge bosons. As these rapidly thermalize, the friction felt by the inflaton field is increased, leading to a self-amplifying process. If the gauge bosons of the thermal bath represent a dark sector, the reheating of the Standard Model is then realised through portal interactions. The dark relic abundance in this scenario depends mostly on the departure from equilibrium after the universe cools down below the critical temperature, when the dark vectors confine into composite states. This constrains the confinement scale of the dark sector. Moreover, indirect detection and Big-Bang nucleosynthesis set bounds on the portal interactions, revealing a predictive parameter space.