

# The Holographic QCD Running Coupling Constant from the Ricci Flow

*Friday 4 October 2024 13:00 (10 minutes)*

Through a holographic model of QCD, we present a phenomenological approach to study the running of the strong coupling constant  $\alpha_s$  in both non-perturbative and perturbative regimes. The renormalization of the metric tensor, driven by the Ricci Flow, and the breaking of conformal and chiral symmetries – thanks to introducing a double dilaton model and large- $N_c$  corrections – allow us to relate the existence of an infrared fixed point in the coupling constant with a smooth matching to pQCD well above 2 GeV. The proposed dilaton model yields linear Regge trajectories and vector decay constants similar to their experimental counterparts.

**Primary authors:** CANCIO ANDEL, Héctor (IFAE); Dr MASJUAN, Pere (IFAE)

**Presenter:** CANCIO ANDEL, Héctor (IFAE)

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