

# Astrophysical Constraints on Black Hole Formation in Interacting Dark Energy Model

*Wednesday 16 October 2024 18:00 (15 minutes)*

Black holes are the current puzzles in modern cosmology. Devoid of concrete knowledge beyond event horizon make them rigid enough not to be soaked by many languages and approaches. However our imagination is inclined towards them to a large extent. Dark energy being an accepted reason for the accelerating universe can be an active factor of most of the phenomenon in the cosmic history. We here assumed an interaction of the dark energy and matter content of the universe and in that environment we have gone through different cosmological parameters. Further we have discussed accretion and evaporation of the black holes in different conditions taking into account the maximum initial mass and the accretion efficiency, hence making prediction on the fate of such black holes. The formation of black holes are restricted by many observational phenomena like the present matter density of the universe, the present photon spectrum, Distortion in CMB spectrum, the Helium abundance constraint, Deuterium photodisintegration constraint and nucleosynthesis constraints. Within the frame work of the interacting dark sector, we evaluated these constraints and found quite interesting results.

## Track type

Dark Energy and Modified Gravity

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**Session Classification:** Parallel - Cosmology