

## XXII Meeting of Physics 2022



Contribution ID : 126

Type : **parallels**

# Black hole stability under odd-parity perturbations in Horndeski gravity

*Saturday, 17 December 2022 10:00 (20)*

In this poster we will show the process to find the stability conditions of a spherically symmetric static black hole in the most general scalar-tensor theory in four dimensions, that is, the Horndeski theory of gravity. After calculating the second order action and derive the master equation, we impose the conditions to avoid ghosts and Laplacian instability. Finally we use the stability conditions to recover the result of the famous paper by Regge and Wheeler on the stability of the Schwarzschild black hole.

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**Session Classification** : parallels

**Track Classification** : Fields and Cosmology