

Gravity waves speed in the non-Abelian Galileon vector theory

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Galileon theories are built with the purpose of having the most general scalar-tensor theory free of the Ostrogradski instability. Quite recently, the vector Galileon theories have been formulated, in particular its non-Abelian version (invariance under a global $SU(2)$ symmetry). The theory, together with a cosmic triad configuration, is able to reproduce the present dark energy epoch, following a nice self-tuning mechanism. However, the theory inevitably contains non-minimal couplings to gravity that can alter the gravity waves speed. This may rule out the theory in view of the recent constraints coming from the detection of a gravity wave and its electromagnetic counterpart from the merger of two neutron stars, as it has happened with most of the Galileon scalar and single-vector field theories. The purpose of this talk is to describe the gravity waves speed calculation in the non-Abelian Galileon vector theory, in a Friedman-Lemaitre-Robertson-Walker background, in order to determine whether the theory is ruled out or not.

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