

# The Dark sector as a manifestation of spin-2 interactions

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I will review some recent results which shed further light on the connection between spin-2 interactions and the so called Dark sector of gravity, i.e. Dark Matter and Dark Energy. Consistency demands that such interactions be built between exactly one massless spin-2 field and one or more massive spin-2 fields. I will focus on the low energy limit of these interactions and show how they naturally give rise to an effective theory which looks exactly like GR plus Dark Matter (DM) plus a Cosmological Constant (CC). The massless field is naturally responsible for the GR like sector of the theory while the massive fields give rise to effects mimicking both Dark Matter and a CC. When more than one massive spin-2 field is present there is a hierarchy between the mass eigenstates and I will comment on this structure in connection to DM. I will discuss some of the virtues and shortcomings of the resulting theory visavi observations. I will also mention some results in connection to the gravitational wave behaviour of the interactions and comment on prospects for future detection.