

Heavy spin-2 Dark Matter

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I will present and discuss a recent proposal which affirms that observations related to dark matter (DM) may be due to the existence in nature of a massive spin-2 particle. The study of massive spin-2 particles falls within the recently constructed class of so called ghost free bimetric theories, which has in its spectrum a massless and a massive spin-2 particle. In certain parameter regimes the massive spin-2 effectively decouple so that the theory can be viewed as that of a gravitating massive spin-2. In this case the massive spin-2 naturally has the desired properties for explaining the DM abundance, hence being a viable DM candidate. Additionally, the massless spin-2 behaves in the standard fashion of GR and is the main source for gravitational interactions of ordinary matter. We will discuss some of the virtues and shortcomings of the resulting theory visavi observations.