



Solving scalar field models in Ricci-based gravities

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By considering metric and connection as independent objects, metric-affine formalism allows for several modified gravity theories to enjoy healthy second-order ghosts-free field equations, without propagating any extra degrees of freedom besides the two polarizations of spin-two GWs recently confirmed by observations. On the other hand, the same freedom on the connection components brings in nonlinearities even stronger than in General Relativity, making the direct resolution of the equations in both, analytical or numerical approaches, a practically unattainable task. However, a way out of these difficulties appears by realizing the existence of an 'Einstein frame' that recovers the structure of the Einstein equations at the cost of including a more intricate relation with the matter sources. In this talk we present some recent results obtained by implementing such mechanism in the case of Ricci-based gravity theories (RBG's) coupled to scalar fields sources.