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Effective gravitational "constant" in scalar-(curvature)tensor and scalar-torsion gravities

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Cosmology papers arXiv:1003.1686, 1006.1246, 1112.5308, 1411.1947, 1511.03933; PPN papers arXiv:1309.0031, 1607.????.

Summary

In theories where a scalar field couples nonminimally to gravity, the effective gravitational "constant" becomes dependent on the value of the scalar field. First, I review how the cosmological evolution provides a dynamical stabilization for the gravitational "constant" as the system relaxes towards general relativity in matter dominated and potential dominated regimes for scalar-(curvature)tensor and scalar-torsion gravities. Second, I review the radius dependence of the gravitational "constant" around a point mass in the parametrized post-Newtonian formalism for scalar-tensor and multiscalar-tensor gravity.

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