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Bootstrapping models of Lorentz-violating gravity MICHAEL SEIFERT, Connecticut College — Over the past few years, the Standard Model Extension (SME) has emerged as a notable effort to describe and parametrize possible breakings of Lorentz symmetry. Most work on gravity within this program thus far has focused on the linearized limit; one of the major challenges currently facing this program is to find a self-consistent non-linear model of gravitational dynamics. I will discuss my recent progress towards parameterizing the possible behaviors of linearized gravity models where Lorentz symmetry is broken, and then "bootstrapping" these models to full non-linear models. I will show that the range of possible models at linear level is quite limited; however, the allowed linear models can be extended to non-linear models in a straightforward manner.

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