

4CF15-2015-000144

Abstract for an Invited Paper  
for the 4CF15 Meeting of  
the American Physical Society

### **Vacuum Solutions in Pure Quadratic Gravity**

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I will present new traversable wormhole and non-singular black hole solutions in pure, scale-free, quadratic gravity. These solutions require no null energy condition violating or "exotic" matter and are supported only by the vacuum of the theory. The solutions are found when the conformal transformation required to move to the dual Einstein frame is singular. Solutions in this case are argued to arise in the strong coupling limit of General Relativity.