Examples of almost Einstein spaces

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Einstein's equations on manifolds are an important topic, both in geometry and physics. They build a system of partial differential equations on the metric tensor. Although these equations are not conformally covariant, there is a natural formulation of the Einstein condition in conformal geometry by means of tractor calculus. This leads to the notion of almost Einstein structures in conformal geometry. I want to present some basic results on the existence of almost Einstein structures (with singularities). Moreover, I will discuss some explicit solutions on closed manifolds by solving ordinary differential equations.