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Bounded variation solutions of the spherically symmetric Einstein-scalar field equations.

(English) Zbl 0853.35122
Commun. Pure Appl. Math. 46, No. 8, 1131-1220 (1993).

The author gives a self-contained, comprehensive account of the spherically symmetric solutions of bounded variation of the Einstein equations

$$R_{\mu\nu} - \tfrac{1}{2} g_{\mu\nu} R = 2T_{\mu\nu},$$

where the energy tensor $T_{\mu\nu}$ is that of a scalar field ϕ, so that,

$$T_{\mu\nu} = \partial_\mu \phi \partial_\nu \phi - \tfrac{1}{2} g_{\mu\nu} \partial^\alpha \phi \partial_\alpha \phi.$$

Reviewer: A.D.Osborne (Keele)

MSC:

35Q75 PDEs in connection with relativity and gravitational theory
83C20 Classes of solutions; algebraically special solutions, metrics with symmetries for problems in general relativity and gravitational theory
53Z05 Applications of differential geometry to physics

Cited in **1** Review
Cited in **70** Documents

Keywords:

spherically symmetric solutions of bounded variation; Einstein equations

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