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On the geometry of Einstein-type manifolds with some structural conditions. (English)

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Summary: In this paper, we investigate the geometry of an Einstein-type equation on a Riemannian manifold, unifying various particular geometric structures recently studied in the literature, such as critical point equation and vacuum static equation. We show various rigidity results of Einstein-type manifolds under assumptions of several curvature conditions.

MSC:
53C15 General geometric structures on manifolds (almost complex, almost product structures, etc.)
53C25 Special Riemannian manifolds (Einstein, Sasakian, etc.)

Keywords:
Einstein-type equation; Einstein-type manifolds; locally conformally flat; warped product

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