Chen, Po-Ning; Wang, Mu-Tao; Yau, Shing-Tung
Quasi-local energy with respect to de Sitter/anti-de Sitter reference. (English)
[Zbl 1467.53020]

The authors discuss the basic idea of the geometry of surfaces in the reference spacetime. The first and second variations of the quasi-local energy are determined. Also, they prove that a surface in the static slice of the reference spacetime is a local minimum of its own quasi-local energy. Finally, the quasi-local conserved quantities under the Einstein equation with a cosmological constant are defined.

Reviewer: Mohammad Nazrul Islam Khan (Buraidah)

MSC:
53B25 Local submanifolds
53B30 Local differential geometry of Lorentz metrics, indefinite metrics
83C05 Einstein’s equations (general structure, canonical formalism, Cauchy problems)

Keywords:
conservation law; reference spacetime; Einstein equation; cosmological constant

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