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Asymptotics with a positive cosmological constant: Illustration with linear fields on de Sitter space-time BEATRICE BONGA, ABHAY ASHTEKAR, ARUNA KESAVAN, Penn State — The framework that allows the study of isolated systems is well-developed for space-times with a vanishing cosmological constant Λ and it lies at the foundation of research in diverse areas in gravitational physics. The standard extension of this framework to space-times with a positive Λ fails for non-stationary space-times as there is no physically useful notion of conserved quantities. I will outline a new physically meaningful proposal and illustrate it by applying it to linearized gravity. The conserved quantities constructed are shown to be equivalent to those derived by using the symplectic formulation. This linear analysis provides a first step to study the errors one makes by assuming $\Lambda = 0$ when studying general relativistic gravitating systems.

Beatrice Bonga
Penn State

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