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Asymptotics with positive cosmological constant BEATRICE BONGA, ABHAY ASHTEKAR, ARUNA KESAVAN, The Pennsylvania State University — Since observations to date imply that our universe has a positive cosmological constant, one needs an extension of the theory of isolated systems and gravitational radiation in full general relativity from the asymptotically flat to asymptotically de Sitter space-times. In current definitions, one mimics the boundary conditions used in asymptotically AdS context to conclude that the asymptotic symmetry group is the de Sitter group. However, these conditions severely restricts radiation and in fact rules out non-zero flux of energy, momentum and angular momentum carried by gravitational waves. Therefore, these formulations of asymptotically de Sitter space-times are uninteresting beyond non-radiative spacetimes. The situation is compared and contrasted with conserved charges and fluxes at null infinity in asymptotically flat space-times.

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