

Abstract

We show that the set of asymptotically AdS₃ geometries form a phase space once a suitable symplectic structure is introduced. The set of solutions to the Einstein equation then forms a submanifold of the phase space. It turns out that the symplectic structure vanishes over the solution space and hence it is an isotropic submanifold of the phase space. This feature leads to interesting properties such that the Brown-Henneaux asymptotic symmetries can be extended all over the bulk, and that charges can be computed over any closed surface in the bulk.