

General covariance is the cornerstone of Einstein's General Relativity (GR) and implies that any two metrics which are related by diffeomorphisms are physically equivalent. There are, however, many examples pointing to the fact that this strict statement of general covariance needs refinement. There are a very special (measure-zero) subset of diffeomorphisms, the residual diffeomorphisms, to which one can associate well-defined conserved charges. This would hence render these diffeomorphic geometries physically distinct. We discuss that these symmetries may be appropriately called "symplectic symmetries". Existence of residual diffeomorphisms and symplectic symmetries can be a quite general feature and not limited to the examples discussed so far in the literature. We propose that, in the context of black holes, these diffeomorphic, but distinct, geometries may be viewed as "symplectic soft hair" on black holes. We comment on how this may remedy black hole microstate problem and possibly the information paradox.