

Abstract: Basic results of the uniqueness theorems and the topological-censorship theorem are presented. Properties of the well-known solution of Einstein's equations with a toroidal event horizon are examined and one of possible visualizations of the coordinate system that helps to better understand the behaviour of various invariants in the vicinity of the singularity is suggested. Apart from this solution, two solutions with a ring singularity are introduced as potential candidates for space-times with toroidal horizons whose properties are interpreted intuitively using the toroidal or Weyl coordinate systems. Last part is devoted to apparent horizons of the considered solutions and the differential equation for the apparent horizon of an arbitrary solution of the Weyl class is derived. The numerical solution of this equation is not presented.