

Abstract

In 1949 Kurt Gödel constructed the first mathematical models of the universe in which travel into the past is, in theory at least, possible. Recently it is found that the Gödel black holes are solutions of five-dimensional minimal supergravity theory which exhibiting most of the peculiar features of Gödel universe. In this talk I am going to review a family of Gödel black holes and recent studies in this background. Finally I will show that the Gödel black hole, similar to other rotating black holes, may serves as particle accelerator.