

Uniqueness theorems of stationary spacetimes and black holes

MARC MARS

Universidad de Salamanca, Spain

Abstract

I will review the classic uniqueness theorem of Lichnerowicz for strictly stationary and asymptotically flat spacetimes and will discuss the powerful ideas of M.T.Anderson which strongly generalize this result by dropping the asymptotic flatness requirement.

For black hole spacetimes, I will discuss the basic ideas behind the uniqueness theorems for asymptotically flat black holes putting special emphasis on the static case and mentioning the most important open problems in the non-static case.