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# On strong cosmic censorship with a cosmological constant.

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## Abstract

Motivated by the Strong Cosmic Censorship Conjecture (SCCC) we consider the problem of global uniqueness for the Einstein-Maxwell-scalar field system with a cosmological constant, for spherically symmetry characteristic initial data.

First we consider the situation where the outgoing data is stationary (i.e., prescribed by a subextremal Reissner Nordstroem black hole event horizon) and the remaining data is otherwise free. In that case, one can find an open set of free data for which it is possible to construct regular extensions of the maximal (globally hyperbolic) development. This provides indirect evidence for the failure of the SCCC in the case of a positive cosmological constant.

To go from indirect evidence to results applying unequivocally to the conjecture at hand we present some preliminary results concerning the case where the outgoing data, instead of stationary, satisfies Price's law.

This is joint work with: P. Girão, J. Natário and J. D. Silva.

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