

General Relativity and Quantum Cosmology

Gravitational Charged Perfect Fluid Collapse in Friedmann Universe Models

M. Sharif, G. Abbas

(Submitted on 29 Jan 2010)

This paper is devoted to study the gravitational charged perfect fluid collapse in the Friedmann universe models with cosmological constant. For this purpose, we assume that the electromagnetic field is so weak that it does not introduce any distortion into the geometry of the spacetime. The results obtained from the junction conditions between the Friedmann and the Reissner-Nordström de-Sitter spacetimes are used to solve the field equations. Further, the singularity structure and mass effects of the collapsing system on time difference between the formation of apparent horizons and singularity have been studied. This analysis provides the validity of Cosmic Censorship Hypothesis. It is found that the electric field affects the area of apparent horizons and their time of formation.

Comments: 17 pages, accepted for publication in Astrophys. Space Sci

Subjects: **General Relativity and Quantum Cosmology (gr-qc)**Cite as: **arXiv:1001.5316v1 [gr-qc]**

Submission history

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[v1] Fri, 29 Jan 2010 02:43:04 GMT (11kb)

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