

Abstract Submitted
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Lines of force in the Alekseev-Belinski solution MARCO PIZZI, ARMANDO PAOLINO, ICRANet and University of Rome “Sapienza” — Recently Alekseev and Belinski have presented a new exact solution of the Einstein-Maxwell equations which describes two Reissner-Nordstrom (RN) sources in reciprocal equilibrium (no struts nor strings); one source is a naked singularity, the other is a black hole: this is the only possible configuration for separable objects, apart from the well-known Majumdar-Papapetrou case. We studied in some detail the coordinate systems used and the main features of the gravitational and electric fields of this solution. Classically-forbidden equilibria are also allowed by this new solution. In particular we show the plots of the electric force lines in the three qualitatively different equilibrium configurations: equal-signed charges, opposite charges and the case of a naked singularity near a neutral black hole.

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