

SHORT TALKS

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Exact solutions of Einstein-Maxwell(-dilaton) equaitions with discrete translational symmetry

Abstract

We introduce four distinct solutions of Einstein-Maxwell(-dilaton) equations from Majumdar-Papapetrou solutions. In addition to being axially symmetric and static, the solutions are reflection symmetric with respect to some special planes and exhibit a discrete translational symmetry along the axis. The first one is constructed via dimensional reduction and is given in closed form, the others involve infinite series with no closed formula. We investigate the geometry of the solutions, behaviour of invariants, properties of horizons and singularities, the convergence of sums, and conserved quantities.