

THE LINEAR STABILITY OF REISSNER–NORDSTRÖM SPACETIME FOR SMALL CHARGE

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We prove the linear stability of the Reissner–Nordström family of charged black holes as solutions to the Einstein–Maxwell equations, subject to coupled gravitational and electromagnetic perturbations. We prove boundedness and decay of gauge-invariant quantities transporting gravitational and electromagnetic radiation, which verify a system of coupled wave equations. We then identify the residual gauge freedom and the Kerr–Newman parameters of the perturbation.