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**Jonathan Ben-Artzi\*** ([yonib@math.brown.edu](mailto:yonib@math.brown.edu)), Department of Mathematics, Box 1917, Brown University, Providence, RI 02912. *Instability of Nonmonotone Magnetic Equilibria of the Relativistic Vlasov-Maxwell System.*

We consider the question of linear instability of an equilibrium of the Relativistic Vlasov-Maxwell (RVM) System that has a strong magnetic field. Standard instability results deal with systems where there are fewer particles with higher energies. In this paper we extend those results to the class of equilibria for which the number of particles does not depend monotonically on the energy. Without the standard sign assumptions, the analysis becomes significantly more involved. (Received September 01, 2010)