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Juergen O. Batt* (batt@mathematik.uni-muenchen.de), Theresienstr. 39, 80 333 Muenchen, Germany. *Stationary solutions of the Vlasov-Poisson system of partial differential equations connected to the Matukuma equation.*

The nonlinear Vlasov-Poisson system of partial differential equations describes the evolution of (continuously) dispersed matter under the action of the Newtonian attracting forces (its discrete analogon is the N-body problem). An early investigation of its stationary solutions with spherical symmetry was given in 1987 (J. Batt, W. Faltenbacher and E. Horst, Arch. Rat. Mech. Anal. 93, 159-183). Classical examples are the models of polytropic gas spheres whose equation is equivalent to the Emden-Fowler equation. In the present talk we study the more involved Camm model which is connected to the Matukuma equation. For this we apply the theory of asymptotically autonomous systems of ordinary differential equations. (Received November 28, 2005)