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Alfonso Castro* (castro@math.hmc.edu), Department of Mathematics, Harvey Mudd College, Claremont, CA 91711, and **Victor Padron** (padro005@umn.edu), School of Mathematics, University of Minnesota, Minneapolis, MN 55455. *Compactly supported ground states for an equation arising in plasma physics.*

Let $p > q$. We prove that the equations $\Delta u + u^p - u^q = 0$ has a of radial compactly supported ground state if and only if $-1 \leq q < 1$. This extends a result of H. G. Kaper and M. K. Kwong (1992) where the case $q \geq 0$ was studied. (Received September 27, 2005)