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11439. *On Radial Solutions of certain Nonlinear Elliptic PDE's.*

In this talk we present an identity satisfied by solutions of nonlinear Sturm-Liouville equations, and applications to proving non-existence of radial solutions for semi-linear elliptic partial differential equations in spherically symmetric domains. This work helps explain in part the role played by critical exponents in nonlinear elliptic PDE's. (Received September 05, 2011)