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Bevin Laurel Maultsby* (maultsby@umn.edu). *Geometry of radial states in p -Laplacian equations.* Preliminary report.

We consider radially symmetric positive solutions to $\Delta_p u + f(u) = 0$ on a ball centered at the origin in \mathbb{R}^n . The union of all such solutions to this quasilinear elliptic equation forms an invariant manifold. We use homotopy methods and two integral expressions that arise from vector fields on the manifold to show that for a certain class of f , there can be at most one such solution satisfying $\Delta_p u + f(u) = 0$ for $1 < p \leq 2$. Extensions to sign-changing solutions will be presented too. (Received September 16, 2014)