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**Ashraf A Ibrahim\*** (aibrahim@math.tamu.edu), 401 Lincoln Ave. apt 32, College Station, TX 77840. *p-adic Descartes' Bounds.*

Descartes' rule of signs implies that any polynomial with real coefficients and exactly  $k+1$  monomial terms has at most  $2k$  nonzero real roots. We discuss an analogue of this result over the  $p$ -adic fields, and an extension to systems of equations. In the multivariate case, we will talk about some recent results on estimating the exact number of geometrically isolated roots. Connections with computational complexity will also be discussed. (Received September 02, 2008)