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Ron Buckmire* (rbuckmir@nsf.gov), 4201 Wilson Boulevard, Division of Undergraduate Education, Directorate for Education and Human Resources, Arlington, VA 22230. *A NSFD Scheme For Discretizing Radial Derivatives: History, Application and Significance.*

Standard finite difference schemes often have difficulties when used to obtain solutions to singular boundary value problems, especially when one is interested in knowing the solution of such problems near the origin. The history, application and significance of the development of a nonstandard finite difference scheme which can be used to numerically approximate derivatives in polar and spherical coordinates more accurately than standard schemes will be discussed. (Received August 31, 2016)