1067-34-1586   **G. Edgar Parker*** (`parkerge@jmu.edu`), Department of Mathematics and Statistics, James Madison University, MSC 1911, Harrisonburg, VA 22807. *Boundary Points of $P_{n,m}$.* Preliminary report.

P, the set of projectively polynomial functions, is dense in $C[0,1]$. On the other hand, $P_{n,m}$, the subset of P in which the projections can be made with a polynomial of degree n on $\mathbf{R}^m$, the elements with domain containing $[0,T]$ form a set that is locally compact in $C[0,T]$. This theorem is achieved through a representation in $\mathbf{R}^k$, where the co-ordinates of $\mathbf{R}^k$ come from the coefficients of the polynomial generators in each component and the components of the initial conditions. In this representation, unbounded sets may lead to functions which are limit points of subsets of $P_{n,m}$. This talk addresses some unsettled questions about these limit points. Examples are given that illustrate the plausibility of the questions. (Received September 21, 2010)