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Coauthors: Johnny Henderson, Baylor University

UNIQUENESS IMPLIES EXISTENCE AND UNIQUENESS CONDITIONS FOR A CLASS OF $(k+j)-$POINT BOUNDARY VALUE PROBLEMS FOR nTH ORDER DIFFERENTIAL EQUATIONS

PAUL ELOE

For the nth order nonlinear differential equation, $y^{(n)} = f(x, y, y', \ldots, y^{(n-1)})$, we consider uniqueness implies existence results for solutions satisfying certain $(k+j)-$point boundary conditions, $1 \leq j \leq n-1$, and $1 \leq k \leq n-j$. We define $(k;j)-$point unique solvability in analogy to $k-$point disconjugacy and we show that $(n-j_0;j_0)-$point unique solvability implies $(k;j)-$point unique solvability for $1 \leq j \leq j_0$, and $1 \leq k \leq n-j$. This result is in analogy to $n-$point disconjugacy implies $k-$point disconjugacy, $2 \leq k \leq n-1$.

University of Dayton
E-mail address: Paul.Eloe@notes.udayton.edu