Seminário em Engenharia Matemática

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Título:

Numerical methods for solving ordinary differential equations with boundary conditions.

Resumo:

Boundary problems are differential problems with a set of additional constraints, called the boundary conditions. A solution to a boundary value problem is a solution to the differential equation which also satisfies the boundary conditions. Unlike initial value problems (IVP), a boundary value problem (BVP) may not have a solution, or may have a finite number, or may have infinitely many.

I present here three standard numerical approaches to solving two-point boundary value problems: shooting, finite differences and projections.