

**NUMERICAL SOLUTION OF FOURTH ORDER BOUNDARY VALUE PROBLEMS BY
PETROV-GALERKIN METHOD WITH CUBIC B-SPLINES AS BASIS FUNCTIONS AND
QUARTIC B-SPLINES AS WEIGHT FUNCTIONS**

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ABSTRACT

We have taken basis functions with cubic B-splines and weight functions with quartic B-splines in Petrov-Galerkin method to solve a boundary value problem of fourth order. In this method, the cubic B-splines and quartic B-splines are redefined into new sets of functions which contain the equal number of functions. To test the accuracy and efficiency of the method proposed, the numerical results obtained are presented in the form of absolute errors and found that the obtained results are giving a little absolute error.

KEYWORDS: Basis Functions, Boundary Value Problem, B-splines, Petrov-Galerkin Method, Weight Functions