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Solution of fifth order boundary value problems by using local polynomial regression.

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Summary: We present a novel method based on the local polynomial regression for solving of fifth order boundary value problems. The method is tested on numerical example to demonstrate its usefulness. The method presented in this paper is also compared with those developed by *S. S. Siddiqi* and *G. Akram* [*ibid.* 175, No. 2, 1575–1581 (2006; [Zbl 1094.65072](#))], as well and is observed to be better.

MSC:

[65L10](#) Numerical solution of boundary value problems involving ordinary differential equations

Cited in 8 Documents

[34B05](#) Linear boundary value problems for ordinary differential equations

Keywords:

boundary value problems; local polynomial regression; kernel functions; numerical examples; comparison of methods

Full Text: [DOI](#)

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