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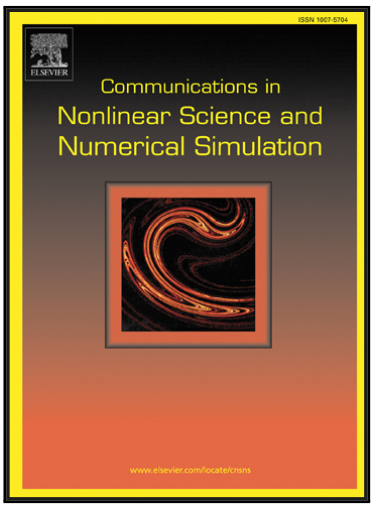

Efficient algorithms for analyzing the singularly perturbed boundary value problems of fractional order

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PII: S1007-5704(17)30334-9
DOI: 10.1016/j.cnsns.2017.09.012
Reference: CNSNS 4328

To appear in: *Communications in Nonlinear Science and Numerical Simulation*

Received date: 17 January 2017
Revised date: 2 July 2017
Accepted date: 12 September 2017

Please cite this article as: K. Sayevand, K. Pichaghchi, Efficient algorithms for analyzing the singularly perturbed boundary value problems of fractional order, *Communications in Nonlinear Science and Numerical Simulation* (2017), doi: 10.1016/j.cnsns.2017.09.012

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Highlights

- In this paper, we extended and introduced a new algorithm based on reduced and boundary layer correction method for singularly perturbed boundary value problems of fractional order
- The length of boundary layers are approximated by resemblance functions.
- Existence, uniqueness, behavior and stability of solution as well as error estimate of the method are investigated.
- The obtained results confirm that, the workload of the present method descend to determine the numerical layer length, which means that this method is considerable in comparison with other methods.

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