

عنوان مقاله:

Solving partial-differential algebraic equations with the fifth-Order Meshless Petrov-Galerkin Method by CS-RBFS interpolation

محل انتشار:

مجله آنالیز غیر خطی و کاربردها, دوره 14, شماره 3 (سال: 1402)

تعداد صفحات اصل مقاله: 15

نویسندگان:

Azam Noorafkan Zanjani - Department of Mathematics, Payame Noor University, P.O.Box 19890-8997, Tehran, Iran

Saeid Abbasbandy - Department of Applied Mathematics, Faculty of Science, Imam Khomeini International University, Qazvin ٣۴١۴٩-١۶٨١٨, Iran

Fahimeh Soltanian - Department of Mathematics, Payame Noor University, P.O.Box 19890-8997, Tehran, Iran

خلاصه مقاله:

In this paper, the application of the Fifth-order Meshless Local Petrov-Galerkin Method in solving the linear partial differential-algebraic equations (PDAEs) was surveyed. The Gaussian quadrature points in the domain and on the boundary were determined as centers of local sub-domains. By governing the local weak form in each sub-domain, the compactly supported radial basis functions (CS-RBFs) approximation was used as the trial function and the Heaviside step function was considered as the test function. The proposed method was successfully utilized for solving linear PDAEs and the numerical results were obtained and compared with the exact solution to investigate the accuracy of the proposed method. The sensitivity to different parameters was analyzed and a comparison with the ...other methods was done

كلمات كليدى:

Partial Differential Algebraic Equations, Meshless Local Petrow-Galerkin Method, Radial Basis Functions

لینک ثابت مقاله در پایگاه سیویلیکا:

https://civilica.com/doc/1727064

