



Solution of Non-Linear Singular Perturbed System Using ANN

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LAP Lambert Academic Publishing Mrz 2018, 2018. Taschenbuch. Condition: Neu. Neuware - In this research, a numerical computational intelligence method is developed for solving the nonlinear singular perturbed problems in different areas with the uses of optimizers based on artificial neural networks with Active Set Technique (AST), Sequential Quadratic Programing (SQP) and Interior Point Techniques (IPT). The Neural network models are helping to construct a mathematical model for the nonlinear singular perturbed differential equations. The motivation towards this research work comes actually from the aim of introducing a reliable framework that make the combination of ANNs optimized with soft computing frameworks to cope with such challenging linear and non-linear singular perturbed system of equations. The validity of such methods has been examined thoroughly for various non-singular boundary value problems arising in science, engineering and bio engineering as well. Comprehensive numerical experimentation has been performed to validate the accuracy, convergence, and robustness of the designed methodology Further Comparative study has also been made with available standard solution to analyze the correctness of the proposed scheme. 68 pp. Englisch.



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