1067-Z1-691   **Ramanjit K Sahi*** (`sahir@apsu.edu`), Department of Mathematics, PO Box 4626, Clarksville, TN 37044, and **Samuel N Jator**, Department of Mathematics, PO Box 4626, Clarksville, TN 37044. *An Exponentially fitted Second Derivative Method for linear singularly perturbed boundary value problems.*

A numerical procedure based on an exponentially fitted Second Derivative Method (ESDM) for linear singularly perturbed boundary value problems is considered. We construct a continuous approximation of the ESDM of step number 2 that simultaneously generates additional methods which are used to provide solutions on the entire interval of the abscissa. To demonstrate the accuracy of our method, we conducted some numerical experiments. (Received September 13, 2010)