

1105-65-17

Frank. Etin-Osa Bazuaye* (febazuaye@yahoo.com), Department of Mathematics and Statistics, University of Portharcourt, Portharcourt, Rivers state, +234, Nigeria, and **U. A. Osiogun** (uaosisiogun1@yahoo.com), Dept. of Mathematics and Applied Statistics., Ebonyi State University, Abakiliki, Ebonyi State, +234, Nigeria. *Construction of Extended Exponential General Linear Methods.*

This paper is concerned with the construction, Numerical Analysis of Extended Exponential General Linear Methods. These methods are related to Butcher, Ostermann and Calvo and Palencia Methods, but, in contrast to the later, make use of higher terms of the exponential and related matrix functions. This feature enables us to derive the order conditions which in turn aided in the construction of family of methods of higher order. Numerical experiments indicate that Extended Exponential General Linear Methods perform better than existing Methods. (Received June 13, 2014)