Balochistan Journal of Engineering & Applied Sciences (BJEAS) – (p-ISSN: 2518-2706)
Volume 2, No. 2

Equivalence between Adomian decomposition method and modified homotopy perturbation technique by using auxiliary operator *T*

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***Abstract*—In this paper, we recommend new efficient algorithm for explaining nonlinear equations by using the improved homotopy perturbation procedure with auxiliary parameter. We demonstration that the polynomial of this new logical performance is exactly same as Adomian's polynomial. This creates the correspondence between modified homotopy perturbation technique and Adomian decomposition procedure.**

***Keywords* — Polynomial, Series solution, Newton method, auxiliary parameter**