

# **A Multi-Moment Essentially Non-Oscillatory Scheme Based on 3<sup>rd</sup> Order Polynomial Interpolation Functions**

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We propose a conservative multi-moment method based on 3<sup>rd</sup> order polynomial interpolation functions and the essentially non-oscillatory (ENO) scheme. The proposed method employs two multi-moment based 3<sup>rd</sup> order polynomial interpolation functions using two different stencils where the locally smoothest stencil is selected. It is 4<sup>th</sup> order accurate in the benchmark sine-wave propagation test. Numerical oscillations around discontinuities are minimised for various benchmark problems, for both uniform and non-uniform velocity fields.

**Keywords:** CIP-CSL, multi-moment method, ENO method