

1135-65-784

Ulises Fidalgo* (uxf@case.edu), Yost Hall 323, 2049 Martin Luther King Jr. Drive, Cleveland, OH 44106-7058. *Interpolatory Quadrature Rules and Orthogonal Polynomials of Varying Rational Weights.*

We give sufficient conditions of convergence for an interpolatory integration rule whose evaluation nodes (scheme of nodes) are zeros of polynomials which are orthogononal with respect to a varying rational weight. This work has a precedent in a paper by T. Bloom, D. S. Lubinsky, and H. Stahl where they stated a necessary condition that the scheme of nodes must satisfy when we have convergent interpolatory quadrature formulae. They also prove this necessary condition holds in the case of a scheme of nodes whose elements are zeros of orthogonal polynomials with respect to some sequences of exponential weights where their exponents are logarithmic potentials. Our convergent interpolatory quadrature rules are contained in the class of candidates given by T. Bloom, D. S. Lubinsky, and H. Stahl. (Received September 14, 2017)