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A de Montessus Type Convergence Study of a Least-Squares Vector-Valued Rational Interpolation Procedure II

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Abstract. We continue our study of convergence of IMPE, one of the vector-valued rational interpolation procedures proposed by the author in a recent paper, in the context of vector-valued meromorphic functions with simple poles. So far, this study has been carried out in the presence of corresponding residues that are mutually orthogonal. In the present work, we continue to study IMPE in the same context, but in the presence of corresponding residues that are not necessarily orthogonal. Choosing the interpolation points appropriately, we derive de Montessus type convergence results for the interpolants and König type results for the poles and residues.

Keywords. Vector-valued rational interpolation, Hermite interpolation, Newton interpolation formula, de Montessus Theorem, König Theorem.

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