

APPROXIMATION CLASSES FOR ADAPTIVE HIGHER ORDER FINITE ELEMENT APPROXIMATION

FERNANDO D. GASPOZ AND PEDRO MORIN

ABSTRACT. We provide an almost characterization of the approximation classes appearing when using adaptive finite elements of Lagrange type of any fixed polynomial degree. The characterization is stated in terms of Besov regularity, and requires the approximation within spaces with integrability indices below one. This article generalizes to higher order finite elements the results presented for linear finite elements by Binev *et. al.* [[BDDP 2002](#)].