Cuenya, H.

Padé approximants as limits of best $L^p$ rational approximants.  (English)  Zbl 0671.41010


The author generalizes the result that the Padé approximant is the limit of the best (in sup-norm) rational approximant on $[0,\epsilon]$ for $\epsilon \downarrow 0$ to the case where the $L^p$ norm on the interval is used. The paper quotes correctly the faulty characterisation of the Padé approximant given in the 1974 paper which contains the ordinary result. The proof uses Hölder’s inequality, the interpolation property and a lemma connecting $L^1$ and sup-norm.

Reviewer: M.G.de Bruin

MSC:

41A21 Padé approximation
41A20 Approximation by rational functions
41A50 Best approximation, Chebyshev systems

Keywords:

Padé approximant; $L^p$ norm; Hölder’s inequality