GENERAL INEQUALITIES FOR MULTIPOINT PADÉ APPROXIMANTS
TO A STIELTJES FUNCTION EXPANDED AT REAL POINTS

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Abstract. In this paper we establish the general inequalities for diagonal and subdiagonal multi-
point Padé approximants to a Stieltjes function $f$ in terms of power expansion of $f$ on the real
line. The inequalities derived produce the best upper and lower bounds on $f$ with respect to
the given coefficients of Stieltjes series. As an example of applications sequences of upper and
lower Padé bounds converging to the effective dielectric constant of a random array of spheres
are evaluated.


Keywords and phrases: N-point Padé approximants, Stieltjes functions, continued fractions.

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