Newton-Pade Approximations for Univariate and Multivariate Functions

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Abstract

The Newton-Padé approximants are a particular case of the multipoint Padé approximants, corresponding to the situation when the sets of interpolation points are nested.

One may consult papers [1-11] for the theory of those approximations for univariate functions. Recently, the authors [13] found a new form for the Newton-Padé approximations and used it in their convergence study. In [12] a multivariate generalization of the Newton-Padé approximations was introduced.

The goal of this note is two-fold. Firstly, we will give short extract from our forthcoming paper [13]. Next, we present generalizations of main lemmas for the case of multivariate functions. For the sake of simplicity we restrict ourselves to the case of two variables because the generalization to more than two variables is straightforward.

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