Markov-type Inequalities for Rational Functions on Several Intervals

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Abstract: In this study, we give Markov-type inequalities for rational functions on several intervals.

Keywords: inequalities in approximation, approximation by rational functions, rational functions.

References:
[1] P. Borwein, T. Erdelyi, Polynomials and Polynomial Inequalities, Springer, New York, 1995.
[2] A.L. Lukashov, Inequalities for Derivatives of Rational Functions on Several Intervals, Izv. Math., 68(3), 543-565, 2004.
[3] V.N. Rusak, em Rational Functions as an Apparatus of Approximation, Belorus. State Univ. Press, Minsk, 1979.
[4] V. Totik, Polynomial Inverse Images and Polynomial Inequalities, Acta Math., 187(1), 139--160, 2001.
[5] D. Benko, V. Totik, Sets with Interior Extremal Points for the Markoff Inequality, Journal of Approximation Theory, 110, 261-265, 2001.
[6] S.I. Kalmykov, Majoration Principles and some Inequalities for Polynomials and Rational Functions with Prescribed Poles, J. Math. Sci., 157(4), 623-631, 2009.
[7] J.L. Walsh, The Location of Critical Points of Analytic and Harmonic Functions, AMS, New York, 1950.
[8] P. Borwein, Markov's and Bernstein's Inequalities on Disjoint Intervals, Can. J. Math., XXXIII(1), 201-209, 1981.

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