

ICM-9102-06 Numerical Results on Best Uniform Rational Approximation of $|x|$ on $[-1, +1]$, A. Ruttan, A.J. Carpenter and R.S. Varga, *Mat. Sbornik*, 182(1991), 1523-1541 (in Russian).

ABSTRACT: With $E_{n,n}(|x|; [-1, +1])$ denoting the error of best uniform rational approximation from $\pi_{n,n}$ to $|x|$ on $[-1, +1]$, we determine the numbers $\{E_{2n,2n}(|x|; [-1, +1])\}_{n=1}^{40}$, where each of these numbers was calculated with a precision of at least 200 significant digits. With these numbers, the Richardson extrapolation method was applied to the products $\{e^{\pi\sqrt{2n}} E_{2n,2n}(|x|; [-1, +1])\}_{n=1}^{40}$, and it appears, to at least 10 significant digits, that

$$8 \stackrel{?}{=} \lim_{n \rightarrow \infty} e^{\pi\sqrt{2n}} E_{2n,2n}(|x|; [-1, +1]),$$

which gives rise to an interesting new conjecture in the theory of rational approximation.