THE INTEGER CHEBYSHEV CONSTANT OF FAREY INTERVALS

Julián Aguirre and Juan Carlos Peral

Abstract _

We obtain new bounds for the integer Chebyshev constant of intervals [p/q,r/s] where $p,\ q,\ r$ and s are non-negative integers such that $q\,r-p\,s=1$. As a consequence of the methods used, we improve the known lower bound for the trace of totally positive algebraic integers.

2000 Mathematics Subject Classification. 11R06, 11-04, 11J99. Key words. Algebraic integer, trace, transfinite diameter, Chebyshev, polynomial.