Bilkent University
Department of Mathematics

Problem Of The Month

Term: February 2011

Show that

$$\frac{a^2+b^2+c^2}{a^5+b^5+c^5}+\frac{b^2+c^2+d^2}{b^5+c^5+d^5}+\frac{c^2+d^2+a^2}{c^5+d^5+a^5}+\frac{d^2+a^2+b^2}{d^5+a^5+b^5}\leq\frac{a+b+c+d}{abcd}$$

for all positive real numbers a, b, c, d.