

ON THE CYCLIC HOMOGENEOUS POLYNOMIAL INEQUALITIES OF DEGREE FOUR OF THREE NONNEGATIVE REAL VARIABLES

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Abstract. Let $f(x, y, z)$ is a cyclic homogeneous polynomial of degree four of three nonnegative real variables satisfying the condition $f(1, 1, 1) = 0$. We find necessary and sufficient condition to be true the inequality $f(x, y, z) \geq 0$, for this aim we introduce a characteristic polynomial $J_f(t)$ and by its root $t_0 > 0$ we formulate the condition.

Mathematics subject classification (2010): 26D05.

Keywords and phrases: Cyclic, homogeneous, polynomial, inequalities, degree four.

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