

**Choque-Rivero, Abdon E.**

**The Kharitonov theorem and robust stabilization via orthogonal polynomials.** (English)

Zbl 1399.34179

Visn. Khark. Univ., Ser. Mat. Prykl. Mat. Mekh. 86, 49-68 (2017).

Summary: Kharitonov's theorem for interval polynomials is given in terms of orthogonal polynomials on  $[0, +\infty)$  and their second kind polynomials. A family of robust stabilizing controls for the canonical system is proposed.

**MSC:**

[34H15](#) Stabilization of solutions to ordinary differential equations

[42C05](#) Orthogonal functions and polynomials, general theory of nontrigonometric harmonic analysis

[26C10](#) Real polynomials: location of zeros

[93D21](#) Adaptive or robust stabilization

Cited in **5** Documents

**Keywords:**

Kharitonov theorem; orthogonal polynomials; Hurwitz polynomials; stabilization of control systems

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