

“53rd IEEE Conference on Decision and Control” (CDC) conference in Los Angeles, California

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In December 2014 I had a great pleasure to present our paper “Generation of stable polytopes of Hurwitz polynomials via Routh parameters” on the “53rd IEEE Conference on Decision and Control” (CDC) conference in Los Angeles, California.

The CDC is the flagship annual conference of the IEEE Control Systems Society. It is a leading international meeting that covers a broad spectrum of topics in systems and control.

On the CDC conference I was introducing results of the research done by Ülo Nurgas, Juri Belikov and me in a paper “Generation of stable polytopes of Hurwitz polynomials via Routh parameters”. This research addresses an important issue in the field of continuous-time linear control systems – convex stability domain approximation problem. We propose a constructive procedure of generating a stable polytope. The main idea is based on constructing so-called Routh stable line segments starting from a given stable polynomial. We present a step-by-step algorithm that results in a stable polytope around a given point. The results of the paper will be used as an input for design of a stabilizing fixed-order controller as well as for robust fixed-order output controller synthesis.

Igor Ardentšuk. 2014.