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Interval Gröbner Systems

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In this talk, we introduce a new concept of interval Gröbner system for a system of interval polynomial equations together with an algorithm to compute it. This concept enables us to discuss on all possible algebraic polynomial systems which may arise from an interval polynomial system, and so makes it possible to analyse the system with (exact) symbolic computational tools. Interval Gröbner system carries some novel applications out in applied and engineering sciences. As an application of the presented method we will show that how interval Gröbner system can help us to find the solutions of fuzzy polynomial systems.

This is a joint work with S. Rahmani, A. Basiri, and M. Riahi.