ODTU-Bilkent Algebraic Geometry

Asymptotic critical values of a polynomial map

By

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Abstract: The bifurcation locus of a polynomial map f is the smallest subset B(f) such that f realises a local trivialisation in the neighbourhood of each point of the complement to B(f).

It is known that the bifurcation locus B(f) is the union of the set of critical values f(Sing f) and the set of bifurcation values at infinity which may be non-empty and disjoint from the critical value set f(Sing f). It is a difficult task to find the bifurcation locus in the cases for a polynomial depending on more than three variables. Nevertheless, one can obtain approximations by supersets of B(f) from exploiting asymptotical regularity conditions. Jelonek and Kurdyka established an algorithm for finding a superset of B(f): the set of asymptotic critical values.

In this talk, we survey the history of the research of the bifurcation locus and discuss recent results on the asymptotic critical values.

Date: 10 December 2021, Friday
Time: 15:40 (GMT+3)
Place: Zoom

To request the event link, please send a message to sertoz@bilkent.edu.tr