

Colloquium

Studies on the Solutions of Polynomial Systems and Its Applications

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時 間：105 年 4 月 27 日(三) 14 : 00

地 點：應用數學系多媒體教室（理 408 室）

摘 要：

Polynomial systems arise in many areas of important applications, and homotopy methods are the most efficient numerical methods for finding all isolated solutions of a polynomial system. In this talk, from the viewpoint of polynomial system, we reconsider some important problems, such as mixed trigonometric polynomial system arising in kinematics problem, multiparameter eigenvalue problems arising in the multiparameter Sturm-Liouville problems and sparse interpolation problem arising in positron annihilation lifetime spectra, and finally exploit homotopy methods to find all solutions of the above problems. Numerical results show the homotopy method is more powerful than the existent methods for solving these problems.