Completing Parametric Unimodular Rows to Unimodular Matrices

Dingkang Wang

Academy of Mathematics and Systems Science, Chinese Academy of Science

Xiaopeng Zheng

School of Mathematics and Computer Science, Shantou University

In 1955, Serre proposed the following famous conjecture: "Every projective module over polynomial ring is free". In 1976, Quillen and Suslin proved independently that Serre's Conjecture is true. This means that polynomial vector $(f_1, \ldots, f_m)$ can be completed to a unimodular matrix if $f_1, \ldots, f_m$ generate the unit ideal. We will extend the Quillen-Suslin Theorem to the parametric case.