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BASIC ALGEBRO-GEOMETRIC CONCEPTS IN THE STUDY OF PLANAR POLYNOMIAL VECTOR FIELDS

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Abstract

In this work we show that basic algebro-geometric concepts such as the concept of intersection multiplicity of projective curves at a point in the complex projective plane, are needed in the study of planar polynomial vector fields and in particular in summing up the information supplied by bifurcation diagrams of global families of polynomial systems. Algebro-geometric concepts are helpful in organizing and unifying in more intrinsic ways this information.

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