Hilbert Basis Theorem and Grobner Basis for Polynomial Ideals

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Abstract

This paper is an exposition of Hilbert Basis Theorem and Grobner Basis. We first recall some basis concepts of the ideal theory and Hilbert Basis theorem for Polynomial ideals.

Hilbert Basis Theorem states that every polynomial ideal is finitely generated. Then we discuss the Grobner Basis for polynomial ideals which is an essential tool for computational Algebraic Geometry.

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