



## 二元插值的几何特征与插值结点平面构形

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### Geometric Characterization for Bivariate Interpolation and Plane Configurations of Interpolation Nodes

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**摘要** 插值结点组的几何特征(GC)决定二元插值问题的解的存在性与唯一性.通过引入亏量的概念对满足GC5条件的集合进行讨论,得到了猜想在 $n=5$ 时的几何平面构形.该构形确定的二元Lagrange公式最终表示成一次因子乘积的形式,进一步验证了该猜想的正确性.

**关键词:** 二元插值 插值结点组的几何特征 GC $n$ 集合亏量

**Abstract:** The existence and uniqueness of solution of bivariate interpolation problems are determined by the geometric characterization (GC) of a set of interpolation nodes. By means of the introduced concept defect, the sets satisfying the GC5 condition are discussed in this paper and geometric plane configurations of the conjecture are obtained when  $n=5$ . The constructed bivariate Lagrange formula can finally be expressed as a product of linear factors, through which the correctness of the conjecture is verified.

**Key words:** bivariate interpolation interpolation nodes; geometric characterization; GC $n$  set defect

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