论文

# Implicitization of Partial Differential Rational Parametric Equations

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摘要 In this paper, we propose algorithms for the following problems in the implicitization of a set of partial differential rational parametric equations P. (1)To find a characteristic set for the implicit prime ideal of P; (2) To find a canonical representation for the image of P; (3)To decide whether the parameters of P are independent, and if not, to reparameterize P so that the new parametric equations have independent parameters; (4) To compute the inversion maps of P, and as a consequence, to decide whether P is proper.

关键词 Implicitization, partial differential ra

分类号

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**Abstract** In this paper, we propose algorithms for the following problems in the implicitization of a set of partial differential rational parametric equations P. (1)To find a characteristic set for the implicit prime ideal of P; (2) To find a canonical representation for the image of P; (3)To decide whether the parameters of P are independent, and if not, to reparameterize P so that the new parametric equations have independent parameters; (4) To compute the inversion maps of P, and as a consequence, to decide whether P is proper.

**Key words** Implicitization partial differential rational parametric equations rational differential varieties

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