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论文

射影平面上不可分近三角剖分地图的计算

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摘要：

众所周知,由于本质圈(或不可收缩圈)的作用,使得一般的曲面上要得到带有两到三个参数的地图计算公式(尤其是显式公式)变得十分困难。该文集中讨论射影平面上不可分近三角剖分地图的计算。通过引入含有面次,边数和内部面数的参数表达式与Lagrangian反演,作者得到了含有正项系数的显式公式用以计算射影平面上三角剖分地图 。

关键词： (有根)地图； Lagrangian反演； 生成函数

分类号:

05C30；05C40；05C45

Counting Non separable Near triangulations on |the Projective Plane

LIN Han, DENG Mo, LIU Pan-Pei

Abstract:

It is well known that any explicit generating function wi th up to two or three parameters for non planar maps can not be determined with easy because of difficulties in handling the essential circuits (or “noncontractible cycles” as some scholars called). In this paper the authors count rooted non separatable near triangulations on the projective plane by the root face valency, the size, and the number of inner faces and a parametric expression, by which an explicit generating function with positive coefficients can be easily deduced, is completely determined as well.

Keywords: (rooted)Map； Lagrangian inversion； Generating function

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参考文献：

[1]Tutte W T. A census of planar maps.Canada J Math，1963,15:249-271

[2]Tutte W T. Counting rooted triangulations. Ann Discrete Math, 1982,12:243-253

[3]Brown W B. On the existence of square root incertain rings of power series. Math Ann, 1965,158: 82-89

[4]Brown W B. Enumeration of triangulations of the disc. Proc London Math Soc,1964,14:746-768

[5]Mullin R C, Schellenberg P J. The enumeration of c nets via quadrangulations. Journal of

Combinatirial Theory,1968,4: 256-276

[6]Dong F, Liu Y. Counting rooted near triangulations on the sphere. Discrete Math,1993,123:35-45

[7]Liu Yanpei. Enumerative Theory of Maps. Boston: Kluwer Academic Publishers, 1998

[8]Liu Yanpei. Embeddability in Graphs. Boston: Kluwer Academic Publishers,1995

[9]Walsh T, Lehman A B. Counting rooted maps by genus Ⅰ, Ⅱ. Journal of Combinat orial Theory, 1972,13B:122-141,192-218

[10]Bender E A, Canfield E R. The asymptotic number of rooted maps on a surface. Journal of Combinatorial Theory, 1986,43A: 2 44-257

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