

论文

双向2重迹与图的最大亏格

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摘要:

设G为连通图且L是G的一条双向2重迹. 作者引入G的一个新参数, 称之为G的反射数, 并用ε(G)表示. 反射数ε(G)由如下式子给出: ε(G) = min_{L} [DD(X) L DD] ε(G, L), 这里ε(G, L)是G的关于L的反射数, 且“min”取遍G的所有双向2重迹L然后, 对于3正则图G, 作者证明了G的反射数ε(G)与G的最大亏格γ-M(G)密切相关, 具体地, ε(G) = 2γ-M(G) - β(G), 其中β(G)是G的圈秩数. 同时, 作者给出一个与ε(G)的值有关的G的特征结构. 这些可视为 Thomassen C 的有关结果的进一步补充.

关键词: 双向2重迹 反射数 Betti 亏数 上可嵌入 最大亏格

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Bidirectional Double Tracings and Maximum Genus

Abstract:

Let G be a connected graph and L be a bidirectional double tracing of G. The authors first introduce a new invariant of G, which is called the retracing number and denoted by ε(G). The definition of ε(G) is given as follows: ε(G) = min_{L} [DD(X) L DD] ε(G, L), where ε(G, L) is the number of retracings in L, and the minimum ranges over all bidirectional double tracings of G. Then, for a connected 3 regular graph G the authors prove that ε(G) is closely related to the maximum genus γ-M(G) of G, namely ε(G) = 2γ-M(G) - β(G) where β(G) is the rank number of G. Also the authors provide an instructural characterization on the graph G according to the value ε(G). Thus these may be viewed as some generalizations of Thomassen C's results.

Keywords: Bidirectional double tracing Retracing number Betti deficiency number Upper embeddable Maximum genus

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