超立方體之互斥最短路徑泛圈性研究

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摘 要

在一個圖形G = (V, E)中，給定任兩點u及v，若一迴圈C上存在一條u到v的最短路徑，就稱C為(u, v)-geodesic。令圖形G為一個雙分圖，給任兩點u, v，若存在任意偶數長度(範圍從max{2d(u, v), 4}到|V|)的(u, v)-geodesic迴圈，此圖形G被稱之為最短路徑偶泛圈性(geodesic bipancyclic)。在這篇論文裡，我們首先證明了超立方體Qn (n ?d 4)在壞一對相鄰點後仍有最短路徑偶泛圈性性質；接下來證明Qn (n ?d 4) 有二互斥最短路徑偶泛圈性(2-disjoint geodesic bipancyclic)性質，也就是說，當任給四點u, v, x, y且它們不形成?戟, x, v?? ?戟, y, v?? ?掌, u, y?? ?掌, v, y? 路徑時，會存在兩個不相交的(u, v)-geodesic 迴圈 C1 和 (x, y)-geodesic 迴圈 C2，其中C1長度為l1，C2長度為l2，且l1及l2是任意符合l1 + l2 ?T 2n且l1 ?d min{2d(u, v) + 2, 2n}及l2 ?d min{2d(x, y) + 2, 2n}等三個條件的的偶數。

關鍵詞 : 最短路徑偶泛圈性、二互斥最短路徑偶泛圈性、超立方體

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