超立方體多生成路徑點容錯性質之研究

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摘 要

這篇論文是關於n維超立方體多生成路徑點容錯性質之研究。令 代表圖形G的一個家族，其中Kb（?} Vb） ∪ Kw (?} Vb) = {si, ti丨1 ?T i ?T (|Kb| + |Kw|) ?} 2 } 是(|Kb| + |Kw|) ?} 2 對好的點，而Fb ?} Vb 和Fw ?} Vw 是兩個壞點的集合。若|Kw| + 2|Fw| = |Kb| + 2|Fb| 則 這個家族是平衡的。若G – Fb – Fw 存在(|Kb| + |Kw|) ?} 2生成路徑，對1 ?T i ?T (|Kb| + |Kw|) ?} 2時，則 家族都是可相連的，只要|Fb| + |Fw| + |Kb| + |Kw| + |Fe| ?T n, 4|Fb| + 2|Kb| + |Fe| ?T n+1 且4|Fw| + 2|Kw| + |Fe| ?T n+1, 當n ?d 3。 應用這個結果，我們可以在fmax = max{|Fw|, |Fb|} ?T – 1, |Fe| ?T n – 1 – 4fmax條件下的Qn – Fv – Fe中找到長度為2n – 2fmax 的迴路，並且在任兩個不同(相同)群的點之間，找到一條長度為2n – 2fmax – 1 (2n – 2fmax)的路徑，fmax = max{|Fw|, |Fb|} ?T – 1, |Fe| ?T n – 1 – 4 fmax (fmax = max{|Fv ∩Vj|, |Fv∩Vi| + 1} ?T for i, j = {b,w}, |Fe| ?T n + 1 – 4fmax)。由此可得，在|Fw| = |Fb| ?T – 1條件下Qn – Fv – Fe是漢米爾頓可蕾絲圖形，並且將研究更多二分連結網路更多相關的漢米爾頓點容錯性質。

關鍵詞 : n維超立方體 ; 平衡家族 ; 可相連的 ; 漢米爾頓可蕾絲圖形

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