漢米爾頓可蕾絲之相鄰點容錯研究

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摘 要

令Qn為n階超立方體。在本篇論文裡，令F為f (n-3)對 相鄰壞點與(n-2-f)條壞邊的集合，我們證明了Qn - F為漢米爾 頓可蕾絲圖。我們同時也證明了Qn - F亦為超級漢米爾頓可蕾 絲圖，此時F為f (n-3)對相鄰壞點與(n-3-f)條壞邊的集合。 根據這些結果，當2 |F'| = f ' (n-2)，F為壞點的集合且 至少包含一個黑點一個白點時，我們可以在Qn - F'中建構出一 條長度至少為2n-2f'+1(起終點不同顏色)或2n-2f'(起終點相 同顏色)的容錯路徑。而且當2 |F'| = f ' (n-1)，F'為壞點的集 合且至少包含一個黑點一個白點時，則我們可以在Qn - F'中建 構出一條長虔至少為2n-2f'+2的容錯迴路。在這之前其他研 究者所提出的最佳結果為2n -2f'。

關鍵詞 : n階超立方體，漢米爾頓可蕾絲圖，超級漢米爾頓可蕾絲

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