CMP平坦化的階層式積體電路佈局密度控制方法之研究

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摘 要

化學機械研磨（Chemical-Mechanical Polishing，CMP）技術是目前後端製程所必須的程序，為提高CMP程序後整體的平坦度，需在晶片佈局產生後加入虛擬金屬（Dummy Fill）填充。在安插虛擬金屬填充前，必須先對晶片佈局做密度分析，讓虛擬金屬有效的安插運用以防止虛擬金屬被安插在錯誤的地方。首先，本文提出階層式的方法來進行密度分析，作為計算各個方格（Tile）需安插的虛擬金屬填充??的依據。本文所提出階層式的密度分析方法，兼具執行效率與結果精確度的優點。以ISCAS89測試電?組的實驗數據顯示，本文提出的密度分析方法，在效率與精確度都明顯優於固定分割密度分析方法(Fixed-Dissection Density Analyses)[8]。

關鍵詞 : 晶片佈局密度分析、平坦化、CMP平坦化技術

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