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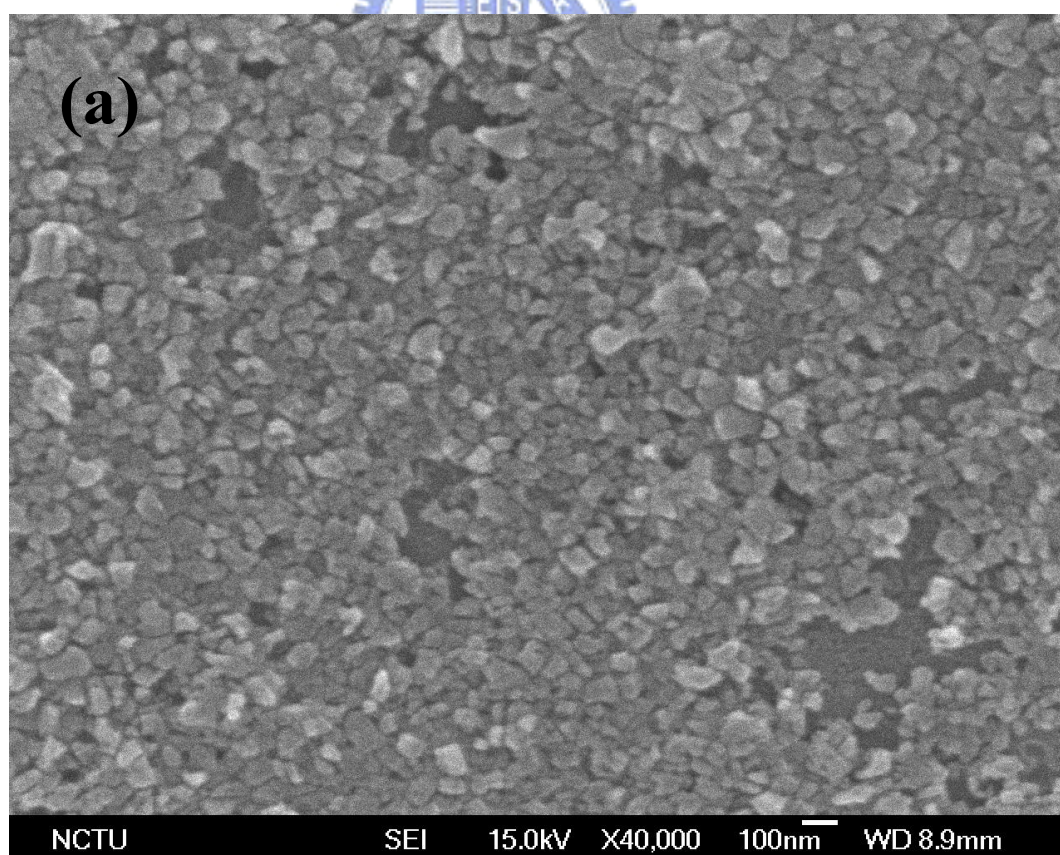


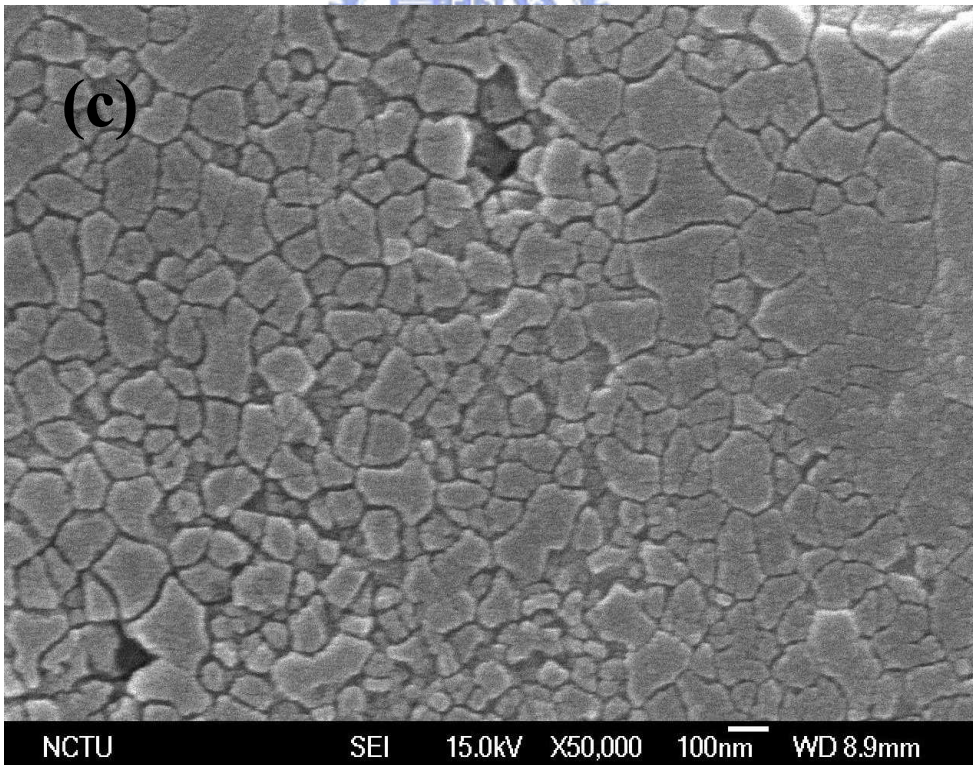
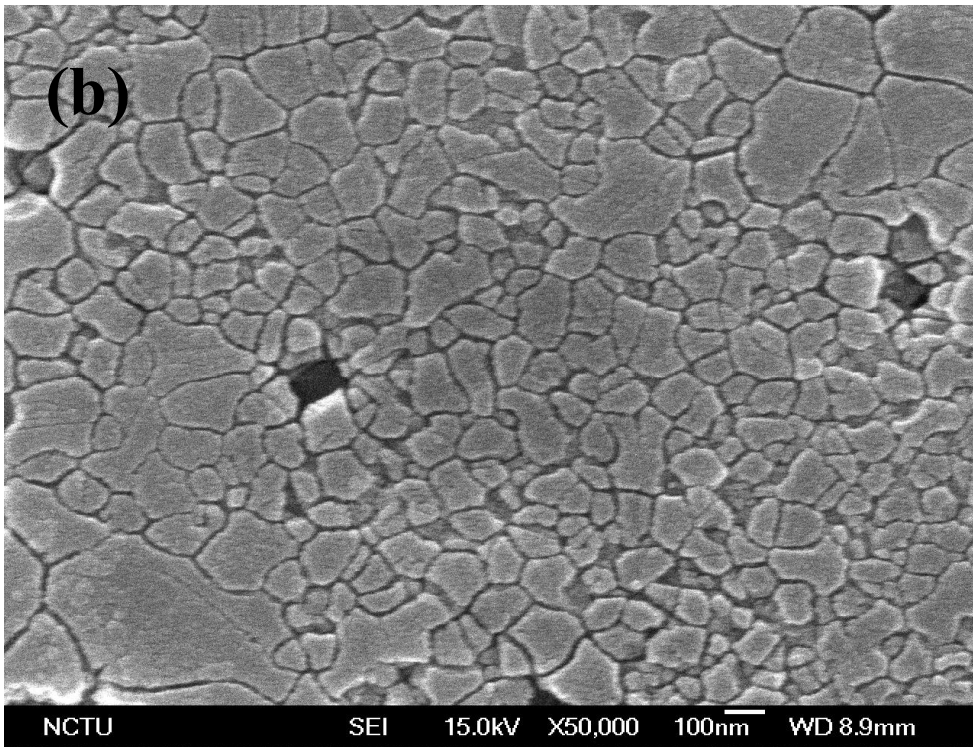
附錄

本實驗將熱蒸鍍後之試片進行連續波固態綠光雷射退火，以固定的掃描速率(10cm/s)，改變不同的雷射功率作為參數，實驗結果如下。

實驗結果

實驗使用的雷射光波長為 532nm、光源尺寸為 $480\mu\text{m}\times 40\mu\text{m}$ ，固定掃描速率為 10cm/s，以不同的雷射功率(2W, 2.2W, 2.5W, 2.8W, 3W)進行退火，其 SEM 表面形貌如圖 1-1(a)-(e)，由圖可看出晶粒尺寸隨著功率的增加而變大，但功率到了 2.8W 以上時因為試片內部氫氣聚集造成氫爆(Film ablation)，破壞了矽薄膜的完整性使得試片表面出現不均勻的未結晶區。





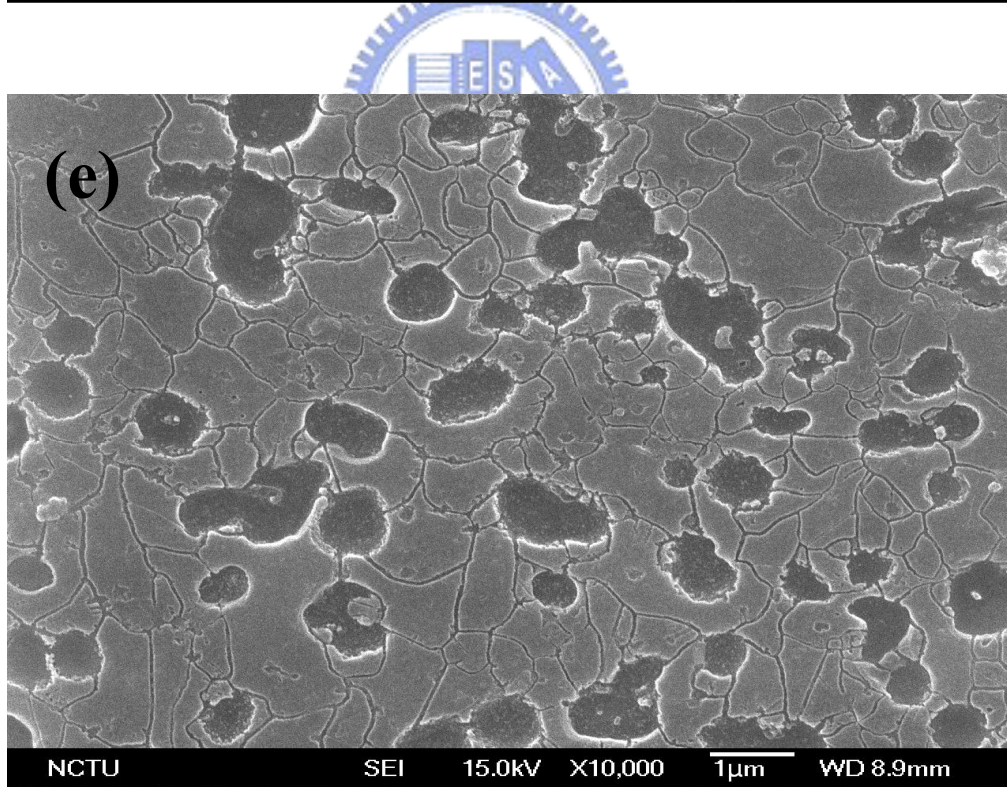
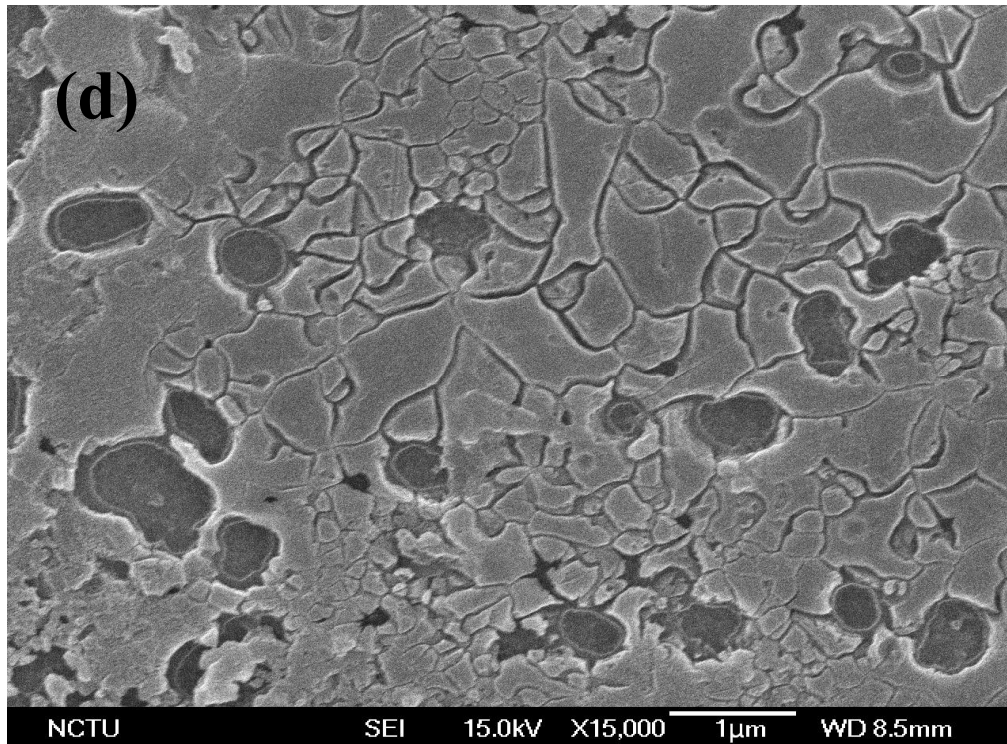


圖 1-1 試片分別在不同功率以連續波固態雷射退火後之 SEM 照片
(a)2W(b)2.2W(c)2.5W(d)2.8W(e)3W