多腔體物理氣相沉積系統 PVD

儀器詳細資訊

服務項目：離子束沉積、一般濺鍍、輔助濺鍍

申請服務辦法：一般服務/特殊服務/樣品準備須知

儀器開放時間：預計 2026 年 2 月底開放

預期回件時間：1~2 周，依據案件排序決定

基本參考資料：

Ion beam sputter deposition (IBSD) module, 200mm Φ wafer and 4inch □ x 0.25in thick substrate stage

1. Primary Pumping Dry, > 50m^3/hr
2. High Vacuum pumping Mag Lev Turbomolecular, > 2000 l/s & cryopump, pumping speed ≥ 1200 l/s
3. Primary Sputter Ion Source RFICP, Gridded, 100-1500 eV, 300 mA (800 mA) Ar, Focused
4. Secondary In-situ clean, assist, etch ion source RFICP, Gridded, 50-1500 eV, 800 mA Ar, Defocused
5. Gases Ar, O_2, N_2
6. Target Carousel 4 x 6" Φ
7. Substrate Stage Vacuum chuck, rotation, tilt, 5-40°C temp control, shutter
8. Pressure: ultimate/base, pumpdown ≤ 2 x10^{-8} Torr, 1 x 10^{-6} Torr in ≤ 1hr
9. Deposition: rate, non-uniformity 0.1 to 3 Å/sec Si, ≤ 1-5%
10. Etch: rate, non-uniformity 0.1 to 3 Å/sec Si, ≤ 5%

Magnetron sputter deposition (MSC) module, 200mm Φ wafer and 4 inch □ x 0.25in thick substrate stage

1. Primary Pumping Dry, > 50m^3/hr Dry,
2. High Vacuum pumping Mag Lev Turbomolecular, > 2000l/s, gate valve & cryopump, pumping speed ≥ 1200 l/s
3. Sputter Cathodes, qty=6 Low pressure, ≥ 4 in Φ target, ≥ 500W DC

4. Gases Ar, O_2, N_2
5. Substrate Stage, rotation, RT-450°C temp control, shutter
6. Pressure: ultimate/base, pumpdown $\leq 2 \times 10^{-8}$ Torr, 1×10^{-6} Torr in $\leq$ 1hr
7. Deposition: rate, non-uniformity 0.1 to 3 Å/sec doped Si, $\leq 1\%$