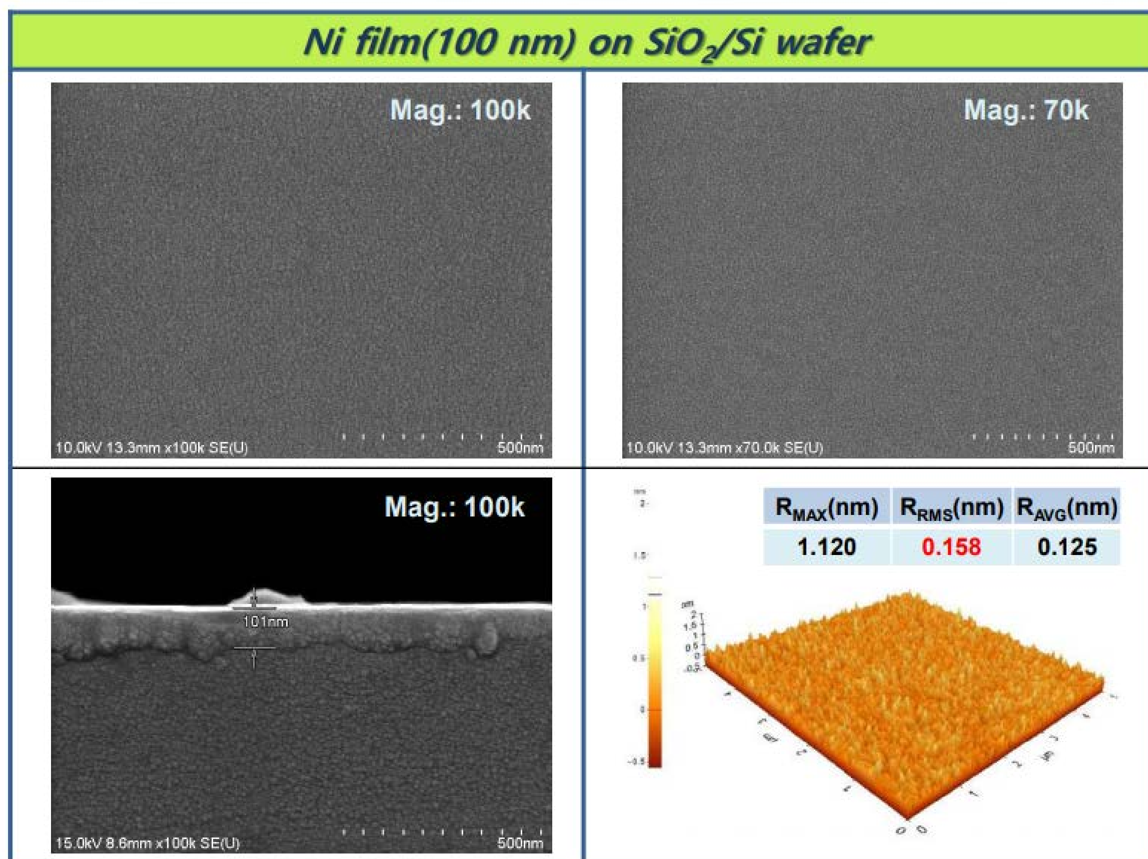
Characterization of Ni film on SiO_2/Si wafer deposited by DC sputtering

Microstructure of Ni Film on SiO_2/Si wafer (SEM/AFM)

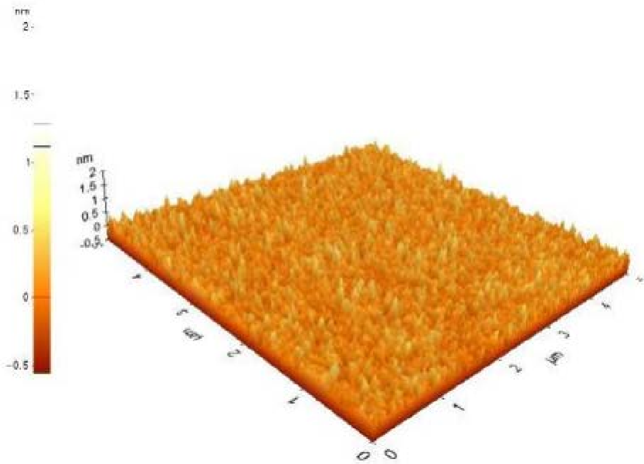


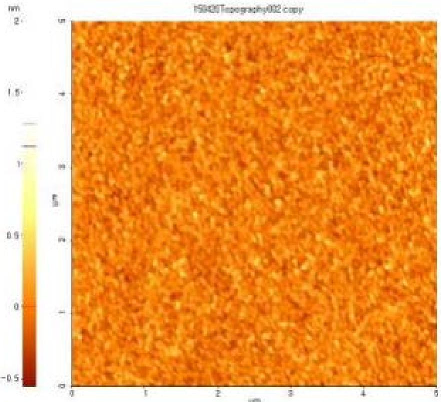
R_{MAX}(nm)	R_{RMS}(nm)	R_{AVG}(nm)
1.120	0.158	0.125

Surface Roughness of Ni Film on SiO_2/Si wafer (AFM)

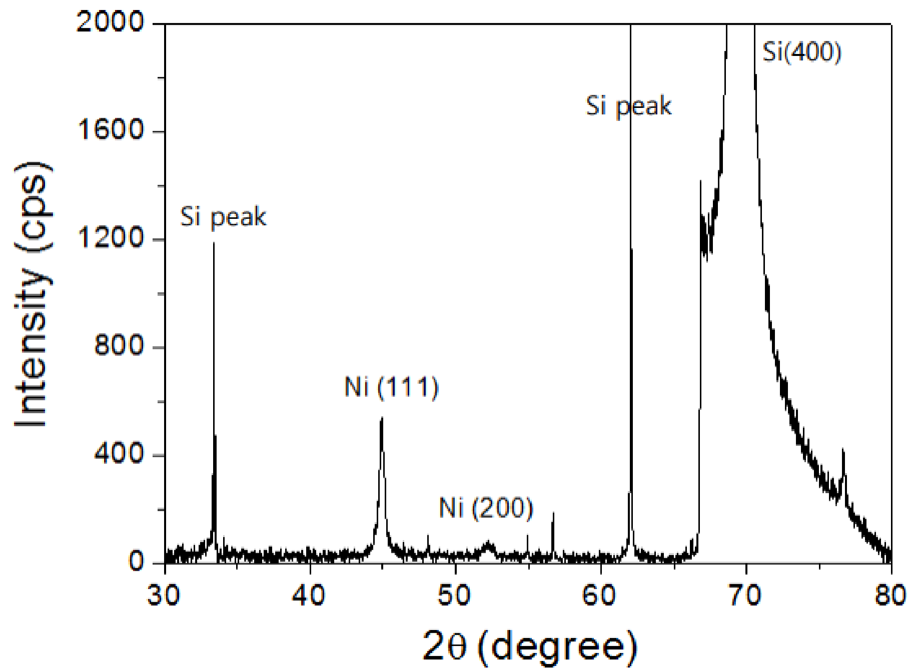
R_{MAX}(nm)	R_{RMS}(nm)	R_{AVG}(nm)
1.120	0.158	0.125

Sheet Resistance: 1.41 Ω
→ Resistivity: 14.1 μΩ.cm





Crystallinity of Ni Films on SiO_2/Si wafer



- **Crystallinity of 100 nm-thick Ni film:**
  - (111) preferred orientation mixed with very week (200) crystallites
  → Ni film is a polycrystalline film (Not (111) textured film)