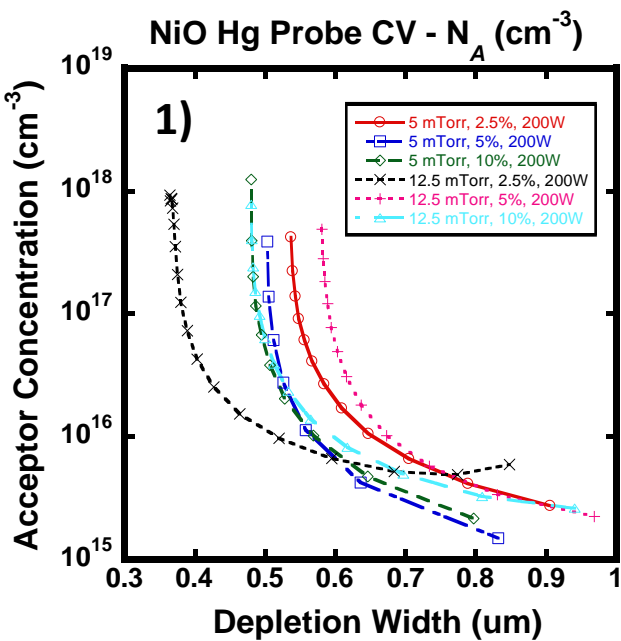


200 W, RT	3 mTorr	5 mTorr	12.5 mTorr
2.5% O ₂	Dep rate – 138 nm/hr Hg CV – N/A Resistivity – $9.3 \times 10^3 \Omega/\text{sq}$	Dep rate – 111 nm/hr Hg CV – $4.22 \times 10^{17} \text{ cm}^{-3}$ Resistivity – $9.6 \times 10^3 \Omega/\text{sq}$	Dep rate – 43 nm/hr Hg CV – $9.28 \times 10^{17} \text{ cm}^{-3}$ Resistivity – $7.9 \times 10^3 \Omega/\text{sq}$
5% O ₂	Dep rate – 118 nm/hr Hg CV – N/A Resistivity – $9.5 \times 10^3 \Omega/\text{sq}$	Dep rate – 70 nm/hr Hg CV – $3.89 \times 10^{17} \text{ cm}^{-3}$ Resistivity – $7.0 \times 10^3 \Omega/\text{sq}$	Dep rate – 34 nm/hr Hg CV – $1.32 \times 10^{18} \text{ cm}^{-3}$ Resistivity – $3.1 \times 10^3 \Omega/\text{sq}$
10% O ₂	Dep rate – 83 nm/hr Hg CV – N/A Resistivity – $1.0 \times 10^4 \Omega/\text{sq}$	Dep rate – 59 nm/hr Hg CV – $1.24 \times 10^{18} \text{ cm}^{-3}$ Resistivity – $8.7 \times 10^3 \Omega/\text{sq}$	Dep rate – 32 nm/hr Hg CV – $2.74 \times 10^{18} \text{ cm}^{-3}$ Resistivity – $6.4 \times 10^3 \Omega/\text{sq}$

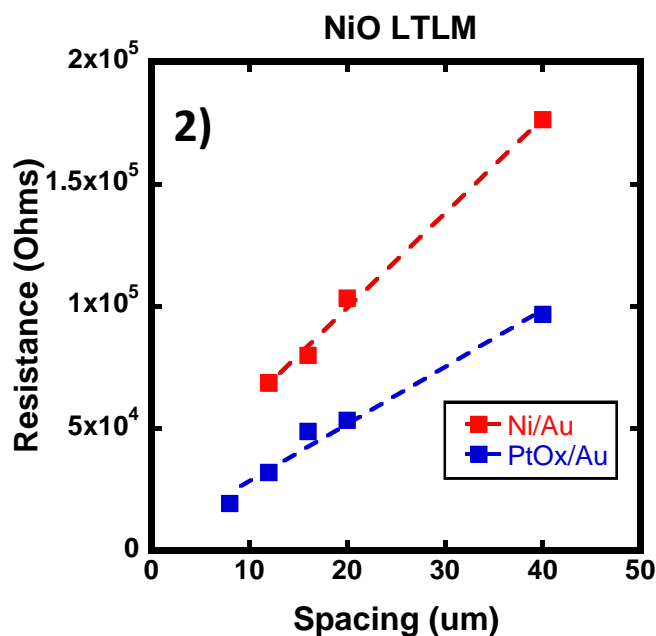
Table 1) Deposition rate, acceptor concentration, and resistivity of NiO thin films sputtered at various oxygen partial pressure and chamber pressure. The temperature and power were constant.



	Contact Res. ($\Omega \cdot \text{mm}$)	Sheet Res. (Ω/sq)	Specific Contact Res. ($\Omega \cdot \text{cm}^2$)
Ni/Au	1079	3.8×10^5	3×10^{-2}
PtOx/Au	259	2.3×10^5	2.8×10^{-3}

Table 2) Data extracted from the linear transmission line measurements of Ni/Au and PtOx/Au contacts to NiO including contact resistance, sheet resistance, and specific contact resistance.

Fig. 1) NiO acceptor concentration as a function of depletion width for six various sputtering recipes. Data was extracted from mercury (Hg) probe capacitance-voltage measurements. **Fig. 2)** Resistance as a function of contact spacing for the Ni/Au and PtOx/Au contacts to NiO films.



Abstract References:

- [1] Spencer, J.A., et al. *Applied Physics Reviews*, 9.1 (2022): 011315 2022
- [2] Kokubun, Y., et al. *Applied Physics Express* 9.9 (2016): 0911012