

Metal Workfunction is not as fixed as you might think!

Gold

Reference: J. M. Gottfried, K. J. Schmidt, S. L. M. Schroeder, and K. Christmann, "Adsorption of carbon monoxide on Au(110)-(1 x 2)," *Surface Science*, vol. 536, pp. 206-224, 2003

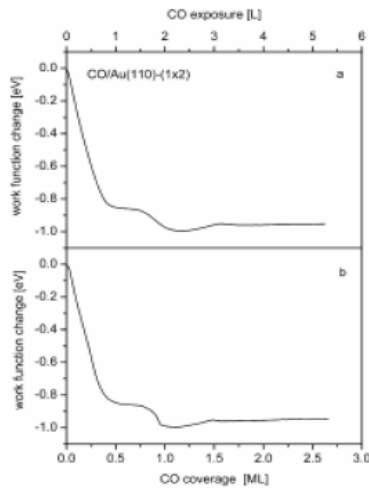


Fig. 10. CO induced work function change vs. exposure (a) and coverage (b) upon adsorption at 28 K and $p_{CO} = 2 \times 10^{-4}$ mbar. Conversion of exposures into coverages according to Fig. 2, inset.

Platinum

Reference: M. Berdau, S. Moldenhauer, A. Hammoudeh, J. H. Block, and K. Christmann, "Interaction of oxygen with Pt(210): formation of new oxygen states at higher exposures," *Surface Science*, vol. 446, pp. 323-333, 2000

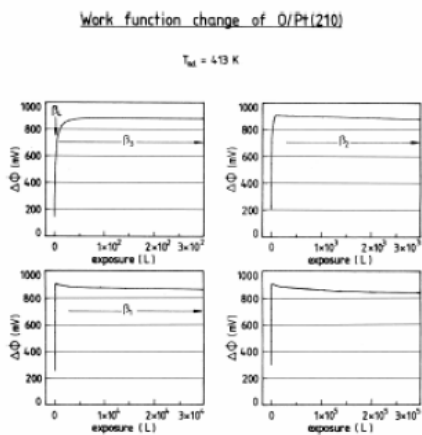


Fig. 6. Adsorption of oxygen causes an initial increase of the work function $\Delta\phi$ of almost 800 mV. At higher exposures $\Delta\phi$ decreases slightly due to the formation of subsurface oxygen.

Palladium

Reference: H. Kobayashi, K. Kishimoto, and Y. Nakato, "Reactions of Hydrogen at the Interface of Palladium Titanium-Dioxide Schottky Diodes as Hydrogen Sensors, Studied by Workfunction and Electrical Characteristic Measurements," *Surface Science*, vol. 306, pp. 393-405, 1994

Evaporation of Ti/Al 5/45nm

Rate: 0.1 nm/s

Rate: 0.5 nm/s

