CONTROLLING NICKEL OXIDE/NICKEL INTERFACE ROUGHNESS WITH PRECURSORS

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The dependence between the 'parameter selectivity' of the surface of solar equipment and the roughness of the interface between nickel oxide and nickel has not been studied yet. To control the roughness of this interface, choosing the appropriate growth parameters is essential [1]. In this regard, we specifically investigated the concentration of diffusing oxygen atoms inside the nickel crystal concerning the oxygen content in the Ni*x*O*y* (Ni2O, NiO, Ni2O3, NiO2) precursor. Preliminary results indicate that the concentration of diffusing oxygen atoms increases with the rise in oxygen content in the precursors at both low (350 K) and high (1200 K) temperatures. Interestingly, in the case of the Ni2O precursor (see Fig. 1), there is no oxidation of the pristine Ni(111) surface. This suggests that the growth of nickel oxide from the Ni2O precursor maintains a very smooth interface between nickel and its oxide.

*Fig.1. Concentration of diffusing oxygen atoms as a function of NixOy precursors*



REFERENCES

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