MICROWAVE SPECTROSCOPY OF GROUP-10-METAL MONOCHALCOGENIDES.

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Group 10 metals (Ni, Pd, and Pt) and their alloys are widely used in various chemical processes as catalysts, such as the three-way catalyst and desulfurization catalyst. Since oxygen or sulfur atoms in reactants can interact with metallic atoms on the surface of such catalysts, diatomic group-10-metal monochalcogenides are often attracting interest as one of the simplest models for the reactant-catalyst interactions. Recently, the diatomic species, NiO, PtO, and PtS, have been studied by a few groups using microwave spectroscopy to obtain their detailed physico-chemical properties. In this contribution, we report on microwave spectroscopic study of two other group-10-metal monochalcogenides, PdO and NiS, generated by sputtering reaction.