

Purpose of this thesis is a study of gas sensing properties of pure and platinum doped tungsten oxide thin films, which are deposited on a glass substrate. Needed films were prepared by magnetron sputtering method. Chemical composition and morphology of the films were investigated by means of XPS and SEM. It was discovered that prepared films are relatively flat and homogenous. They consist of polycrystalline WO_3 . It emerged that platinum which is present in modified films is in form of the PtO_2 and PtO oxides. During subsequent heating of the films in air, which is needed for right function of films as sensors, PtO_2 partially reduced. The resistance of the films decreased after heating. Sensing properties of the films were studied at 300 °C. The platinum doped film was more sensitive to exposition of hydrogen than the pure film.