

## ABSTRACT

Master's degree work Zhuk V.P. on "Electrochemical synthesis and sensor properties of polyaniline " - K .: NTUU "KPI", 2015. 67 p., 47 fig. , 7 tab., literature - 49.

Polyaniline conducting polymer films have been prepared in acid (HCl) by potentiostatic, galvanostatic methods in an electrochemical cell and studied by cyclic voltammetry and spectrophotometric method.

Thin polyaniline (PANI) films are known as good optical gas sensors. To improve these properties we have developed new PANI films obtained at different electrochemical condition. We demonstrate that PANI films have an increased surface area; give strong, fast and reversible optical sensor responses to ammonia. In case of ammonia–air gas mixtures we demonstrate that the PANI films give linear optical responses to ammonia gas in concentration ranges of 10–114 ppm.

**Keywords:** polyaniline (PANI), electrochemical oxidation, ammonia sensor, peroxidation.