Heterogeneous catalysis is one of many interesting part of physics, witch surface science study. Knowing of importance of processes in catalytic reaction should predict properties of new bimetallic systems. The main task of this diploma thesis was the study of valence band of transition metals. In this diploma thesis we studied bimetallic system of palladium and tin by ARUPS. We also used methods XPS, XPD and LEED, which are classical applications in surface physics.