

Many properties of nanoparticles are different from general bulk properties. This work is focused on coalescence of nanoparticles depending on temperature. Coalescence was experimentally measured on gold nanoparticles, copper nanoparticles and silver nano-islands. The samples were characterised by SEM, AFM and in-situ ellipsometry in range between 20°C and 350 °C. In the theoretical part was analyzed existing semi-analytical model of coalescence and then it was created a new model based on previous one. In the end, the comparison between experimental data and model was done. New model predicts greater coalescence of nanoparticles, what corresponds to experimental data.