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Migration behavior of palladium implanted into glassy carbon

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Migration behavior of palladium (Pd) in glassy carbon was investigated using Rutherford backscattering spectrometry (RBS), scanning electron microscopy (SEM) and Raman spectroscopy. Pd ions of 200 keV were implanted into glassy carbon samples to a fluence of 1×10ˆ16 cm-2 at room temperature. Some of the implanted samples were annealed in temperature ranging from 100 to 1000 oC in steps of 100 oC for 5 hours. Implantation of Pd amorphized Gc.
Diffusion of Pd began after annealing at 400 oC and become more pronounced with increasing temperature. At 600 oC it was accompanied by 10% loss of Pd while at above 600 oC it was accompanied by loss and peak shift towards the surface. From the peaks broadening the diffusion were estimated in the temperature range from 600 to 1000 oC.

Apply to be
 considered for a student
   award (Yes / No)?

Yes

Level for award
 (Hons, MSc,
   PhD, N/A)?

PhD

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