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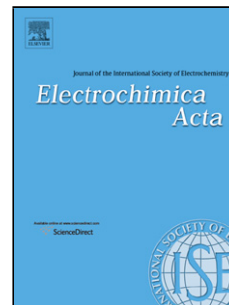
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Electrochemical Measurements on Enhanced Dissolution of Pd from Pd–Zn Alloys in Hydrochloric Acid

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Abstract

Anodic behaviors of Pd–Zn alloys in hydrochloric acid have been observed by channel flow double electrode to examine dissolution of Pd enhanced by alloying. The measurements on Pd–40%Zn, Pd–60%Zn and Pd–78%Zn show that the enhancement of Pd dissolution depends strongly on the alloy compositions. A linear sweep voltammogram with a Pd–78%Zn electrode indicates that Pd dissolved from the alloy at unusually low potentials, and this might be explained by a dissolution of unstable Pd clusters transiently formed through preferential dissolution of Zn. On the other hand, potentiostatic measurements show that Pd dissolves from Pd–60%Zn at a higher rate than from the two other alloys. Dissolution

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