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Measurement of Magnetic Moment in the Strained 316 Stainless Steel Using HTS-SQUID

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The Magnetic properties of nuclear grade 316NG stainless steel with different nitrogen contents have been investigated using RF HTS-SQUID-based susceptometer. Strain controlled low cycle fatigue tests were conducted at various temperatures from Room Temperature (RT) up to 6000°C, and the Magnetic moment tests were measured after the fatigue test using RF HTS-SQUID. The yield strength in the cold worked samples is higher than that of as-received one, and yield strength and fatigue life are correlated with magnetic moment. These relations were explained as the interaction between dislocation and magnetic domain wall.

TB02

Abstract Template of ISAMMA 2006 Different Nanostructure Electrocatalysts as Cathode Catalysts Application for Direct Methanol Fuel Cell

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Direct methanol fuel cell (DMFC) belongs to the same family of energy conversion device and the application of new hydrogen storage nanomaterials carbon nanotube (CNTs) supported catalysts is being addressed in an increasing industrial approach.

In this present study, multiwall carbon nanotube supported Pt and Pt-Ni nanoparticles were prepared as cathode catalysts for direct methanol fuel cell application. Transmission electron microscopy and X-ray diffraction analyses indicate the formation of well-dispersed Pt and Pt-Ni nanoparticles having sizes of around 2 ~ 4 nm on carbon nanotube.

Furthermore, the electrochemical characterization by the cyclic voltammetry (CV) demonstrates that these catalysts have higher catalytic activity and the methanol oxidation reaction of the Pt-Ni/CNTs is respectively almost similar and slightly higher than Pt/CNTs electrocatalysts.

REFERENCES

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