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Effects of Applied Magnetic Fields on Aqueous Electrolysis JOHN DASH, CRAIG COUSINS, JON ANDERTON, Low Energy Nuclear Laboratory, Portland State University, Portland, OR 97207-0751, JIAN TIAN, Changchun University of Science and Technology, Changchun, China — Evidence that nuclear reactions occur during Pd/D co-deposition has been reported [1]. These reactions were found to be enhanced in the presence of either an external electric or magnetic field. We have studied the interaction of applied magnetic fields with aqueous electrolysis. The electrolysis cell was placed between the pole pieces of an electromagnet, with the magnetic field normal to the electric field. Appreciable turbulence was observed with electrolysis current density of 0.05 A/cm2 and applied magnetic field of 0.8 tesla. Turbulence increased with increase in current density, up to 0.2 A/cm2, and/or increased magnetic field strength, up to 0.8 tesla. These effects are documented on a video tape. Results of studies of electrolysis of heavy water with a palladium cathode in an applied magnetic field, including heat measurements, surface topography, and surface composition, will be compared with results obtained from an identical cell without an applied magnetic field.

[1]Pamela A. Mosier-Boss, Stanislaw Szpak, and Frank E. Gordon, Abstract Submitted for the March 07 Meeting of The American Physical Society.

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