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**Investigation of the Cold Fusion Phenomenon in the Surface Region of Hydrogen Non-occlusive Metal Catalysts; W, Pt, and Au**

HIDEO KOZIMA, Cold Fusion Research Laboratory, 597-16 Yatsu, Aoi, Shizuoka, 421-1202, Japan and, TADAHIKO MIZUNO, Division of Energy Environment, Graduate School of Engineering, Hokkaido University, Kita-ku Kita 13 Nishi 8, Sapporo 060-8628, Japan — There are several experimental data sets showing occurrence of the cold fusion phenomenon (CFP) in such contact metallic catalysts which do not occlude hydrogen isotopes such as tungsten (W), platinum (Pt) and gold (Au). These metals do not occlude hydrogen isotopes and are different from such hydrogen occlusive transition metals usually used in the cold fusion (CF) experiments such as Ti, Ni, and Pd. The non-occlusive isotopes and give us precious information about mechanisms facilitating formation of specific matter for the CFP (CF matter) in the cold fusion material. In the electrolysis experiments with these metals as electrodes and with several electrolytes in light or heavy water, transmuted nuclides were observed in the surface layer of the electrodes. The generated nuclides were localized in areas with a diameter of around a few  $\mu\text{m}$  in the surface layer of thickness less than 103 nm. These specific nuclides observed in the host metals, W, Pt and Au, depend on the composition of the electrolyte.

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