

Celani's Wire Excess Heat Effect Replication

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Abstract:

This paper presents the results obtained during the replications of Francesco Celani's experiments made by the Martin Fleischmann Memorial Project (MFMP). In his experiments Celani saw consistent and reproducible excess heat generation results coming from treated constantan wires using different protocols [1,2].

The design of the cell, which is based closely on the original experimental apparatus demonstrated at ICCF 17 is described in detail, with attention to the material choices and design geometry and its operating conditions. Differences between the original experiment and later replications that improved credibility are explored.

Using this processed material [3], two different protocols similar to Celani's work are shown in various apparatus in multiple geographic locations. The first protocol shown is similar to that presented at ICCF 17 [2] ; whereas a second improved protocol is shown that was later defined by Celani et al. [1]. Additionally researchers at MFMP utilized another identical dummy cell in order to keep the calculation baseline consistent with real-time changes of the labs environment.

Characterization of the wires is made before and after the experiment using scanning electron microscopy and electron dispersive spectrometry. Multiple calculations of the excess power are presented. The first one is derived by comparing active cell output to a baseline extracted from steady state calibrations. The second one uses Stefan-Boltzmann black-body calculation in the same way that Pr. Celani is doing. A last one uses the unactivated cell as a reference.

The presentation that will be made during the conference will explore these results and discuss the validity of this type of experiment, calorimetry and wire treatment for the production of excess energy.

References:

[1] : Francesco Celani, E. Purchi, A. Nuvoli, A. Spallone, M. Nakamura, B. Ortenzi, S. Pella, A. Ovidi, G. Vassallo, S. Bartalucci, E. Righi, G. Trenta ; "Evidence of anomalous heat evolution, on surface modified constantan wires, after prolonged H₂ absorption and subsequent measurements under dynamic vacuum." Art Science Journal, 2013.

[2]: Francesco Celani, E. F. Marano, A. Spallone, A. Nuvoli, E. Purchi, M. Nakamura, B. Ortenzi, S. Pella, E. Righi, G. Trenta, S. Bartalucci, A. Ovidi, G. L. Zangari, F. Micciulla, S. Bellucci ; "Cu-Ni-Mn alloy wires, with improved sub-micrometric surfaces, used as LENR device by new transparent, dissipation-type, calorimeter." ICCF-17, Daejeon – Korea (2012).

[3]: F.Celani, E.F. Marano, A. Spallone, A. Nuvoli, B.Ortenzi, S.Pella, E.Righi, G.Trenta, F.Micciulla, S.Bellucci, S.Bartalucci, M.Nakamura, E.Purchi, G.Zangari, S. Cupellini, A.Mancini, F.Maggiore and A.Ovidi ; "Experimental Results on Sub-Micro Structured Cu-Ni Alloys under High Temperatures Hydrogen/Deuterium Interactions, International Workshop on Anomalies in Hydrogen Loaded Metals." Pontignano (Siena) - Italy (10-14 April 2012).