

LETTERS TO THE EDITOR



COMMENTS ON "EXPERIMENTS OF ONE-POINT COLD FUSION"

Matsumoto¹ describes an experimental procedure in which a platinum pin ~0.5 mm in diameter was placed ~1 to 2 mm from a single-crystal copper cathode. The author states that, ". . . pulsed ac currents of ~70 to 90 V were applied. An ON mode ran for 20 ms (50 Hz), and an OFF mode for 5 s. The phase of the ac was fixed to zero such that pulsed ac current started with positive current. The discharge was maintained for 5 to 20 min." It is noted that the platinum "pin" electrode and the copper electrode alternate as anodes and cathodes, although the positive loop of the alternating current (ac) starts with the platinum pin being an anode. Shoulders² showed in U.S. patent 5,018,180 that if the platinum pin is the cathode, then electron beads (EVs) or high-density charge clusters can be formed in this type of circuit. Note also that Matsumoto reports, ". . . discharge was then carried out in heavy water, and the voltage was changed from 70 to 90 V. A discharge with 100 V was also tried, but the pin cathode was melted in some of the ac shots." Later, Matsumoto reports, ". . . very strange traces that were recorded on a 0.20-mm-thick polycrystalline plate with 70 and 90 V, respectively. They were not found on nuclear emulsions in the previous experiment³ but were first observed in discharges with the higher voltages. . . . It is reasonable to consider these as the breakup of some clusters." It is suggested to Matsumoto that he has inadvertently succeeded in creating high-density charge clusters as taught by Shoulders. These charge clusters consist of from 10^8 to 10^{12} electrons in a highly dynamic cluster. For those of us who have seen the "witness plates" produced by Shoulders, some of the figures in Matsumoto's paper are highly suggestive of just such craters or holes in the "witness plates." It is suggested that Matsumoto place a small radio receiver close to the experiment. By tuning the radio receiver away from a station, so that the automatic volume control is increased in the absence of a strong radio signal, one should be able to hear the dramatic "lightning strike-like" noise when an EV is created and destroyed on the surface of an electrode. Unless I am mistaken, we can congratulate Matsumoto on the rediscovery of high-density charge clusters or EVs. Matsumoto is referred to earlier issues of *Fusion Facts* in which we have reported on the role of EVs in cold fusion.⁴ Researchers, please note: High-density electron charge clusters exist in nearly all electrical arcs, including lightning, and often spo-

radically in plasma discharges. The huge charge involved is considered large enough to induce accelerations of deuterons that can support "cold fusion" by locally swamping the magnitude of the Coulomb barrier!

Hal Fox

Editor-in-Chief
Fusion Facts
Fusion Information Center
P.O. Box 58639
Salt Lake City, Utah 84158

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REFERENCES

1. T. MATSUMOTO, "Experiments of One-Point Cold Fusion," *Fusion Technol.*, **24**, 332 (1993).
2. K. SHOULDERS, U.S. Patent No. 5,018,810.
3. T. MATSUMOTO, "Observation of Meshlike Traces on Nuclear Emulsions During Cold Fusion," *Fusion Technol.*, **23**, 103 (1993).
4. "Cold Fusion and EVs," *Fusion Facts*, 17 (May 1992); see also *Fusion Facts*, 1 (Feb. 1993).

RESPONSE TO "COMMENTS ON 'EXPERIMENTS OF ONE-POINT COLD FUSION' "

In Ref. 1, Fox writes that the strange traces that I observed during my experiments of one-point cold fusion² correspond to electron beads (EVs) and that, unless he is mistaken, he congratulates me on the rediscovery of high-density charge clusters, or EVs. But I cannot be congratulated for two reasons.

First, I observed things different from EVs. Since 1989, I have been proposing the Nattoh model, which predicts the production of new particles called "itons" during "hydrogen-catalyzed" fusion reactions, which are primary during cold fusion such as in Fleischmann-Pons-type experiments. Itons, which consist of electrons, positrons, and