A Possible Heuristic Explanation of Exotic Vacuum Objects (EVO's, Charge Clusters)

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In early 90's, Ken Shoulders was granted 5 patents on Exotic Vacuum Objects claiming that they were **a new form of matter**. He produced many monographs about them and suggested they were the physics that explained cold fusion.

In Ken Shoulders words, EVO's are, "Highly organized**, micron-sized clusters of electrons**, having soliton behavior, with electron populations on the order of *Avogadro's number*. When interacted with solid material, these charge clusters perform a low-energy phase transformation type of atomic disruption that **liquefies the lattice** and propels the material to a **high velocity** without apparent signs of conventional heating. Using an ordinary thermal interpretation, a thermal gradient for bulk material greater than **26,000 degrees C** per micrometer would be required to achieve these effects".

This talk presents lessons from thin film deposition methods like Vacuum Arc, Pulsed Electron beam, Pulsed Laser whose commonality with EVO generation is pulse energy impingement on a target. Rather than the hypothesis of a "new form of matter" as an explanation of EVO's, it is hypothesized that generation of a micro shaped-charge, in analogy with explosively formed shaped-charge munitions, can explain the characteristics of surfaces that were struck by EVO's. This hypothesis reproduces the effects that are underlined in the text above.