

Feedback on BBC-sponsored UCLA Experimentation
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I have not been able to find time to study in depth the piece-meal information package received by me on Jan. 14, 2005 containing email and other such transmittals from UCLA to BBC and its consultants. However, as a courtesy to BBC's Colin Murray, I did take a brief look and offer the following interim feedback.

“It is to be kept in mind that per well-established published thermonuclear data, the rate of nuclear fusion induction can change by $\sim 1,000,000,000$ times for plasma temperatures varying by a mere factor of 10 (from 10^6K to 10^7K). The implications of such an enormous variation should be dauntingly obvious, and fascinating especially in relation to acoustic inertial confinement fusion (AICF). Where one ends up in plasma temperature, compression and confinement should be appreciated and can not be trivialized. The BBC-sponsored experiments at UCLA represents a scoping attempt and while on the surface may appear similar to the reported work of Taleyarkhan et al., it does NOT replicate the key aspects of experiments that have demonstrated acoustic inertial confinement fusion. The test cell, standing wave mode, rate, timing and evolution of clusters and transient drive, the energy spectrum of neutrons used to nucleate to name a few parameters all appear radically different from those used for the reported results by Taleyarkhan et al. in Science (2002) and in Phys.Rev.E (2004). However, the UCLA experiments appear to represent a good demonstration for timing of sonoluminescence marker parameters, and also for pulse-shape discrimination – something Prof. Putterman (of UCLA) has proven adept at. The UCLA scoping experiments demonstrate yet another set of experimental parameters that may not lead to significant nuclear fusion during neutron seeded acoustic cavitation and could be useful as a guide for other researchers in the field. For the record I had cautioned BBC about the potential perils of sponsoring such an undertaking, however noble the motive.

Finally, I neither confirm nor deny any data or results from related confirmatory work performed by various worldwide groups – that have been shared with me in confidence, even if it means to take a loss of not taking advantage of positive publicity, etc. I firmly believe that scientific reviews (especially for unpublished information) should NOT rest in the domain of, nor be conducted by the Press. One needs to abide by the sacrosanct time-honored and tested tradition of anonymous peer review for publication before engaging in public debate.”