

Date: Mon, 21 May 2007 22:28:17 -0400
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To: Steve Krivit
Cc: lahey@rpi.edu, nigmar@gmail.com, rusi@purdue.edu
Subject: Response to Questions on Design Sketches, Putterman/Suslick PRL
non-paper

Hi Steve:

1) Quotes from ...Putterman stated .."built to blueprints provided by Taleyarkhan .."

Putterman received sketches from us to provide overall guidance. Calling them blueprints (commonly meant to depict micromachined components with mil-type tolerances) is grossly misleading since each piece is to be ultimately hand-blown by a glass-blower wherein significant variations in dimensions occur even for the same glass-blower for the same component made multiple times. Also, several areas of construction depend on the skill, careful attention to details, and persistence of the experimenter who assembles the various component pieces together and then strives to create a high-Q resonant acoustic cavity.

Thereafter, there are issues of degassing, purification, absence of contaminants in the lab., skill of the experimenter, etc. He and Suslick [REDACTED] [REDACTED] job from various perspectives as evidenced from their PRL writeup (see below). Dick was quite right in his observations (.. I told them, they were doomed to failure..) when he visited and saw the apparatus they at UCLA used for BBC and then repeated the same doubly.

2) Response to the PRL paper by Putterman, Suslick et al.

I will respond separately to the email quotes given by your reader - he is very much on the mark. Putterman et al. with the approach taken by them were doomed to fail. The bubble clouds they were supposed to develop were like "comets" per the movies they sent to me for the record, and not of the required spherical implosion at the rate they were to get them. I am attaching a movie that was sent to me by Suslick's student. Let the readers conclude for themselves. The SL variation (intentionally poisoned fluid with air/gases just to get more light output) was quite the opposite of what we experienced and advocated both via expts. and also via theoretical foundations set up by Nigmatulin/Lahey et al., the shape and frequency of bubble cluster implosions, and even the fact that they used a different set of boundary conditions (viz., the top reflector was removed intentionally in their expts.). All of these items were known to them to avoid but they still went ahead and reported them to PRL instead of engaging in good-faith discussions. Rather, and to my utter dismay, while we were giving good-faith demos. of not one but two experiments on

3/1/2006 Putterman and Suslick had the gall to embarrass me in front of the DARPA sponsors by insinuating fraud in regard to our group's 1/2006 PRL paper related to evidence of nuclear emissions during self-nucleated acoustic cavitation.

Hope the above is clear. I've discussed items 1 and 2 with my co-authors and we are all on the same page. Feel free to call on Dick and/or Robert or Bob Block for further clarification. Even Dick had offered to provide some guidance to them after visiting with their lab.

Regards,

Rusi