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Hal Puthoff Discusses the Scientific American Article on Zero-Point Energy

(The following discussion was not published in Sci. Amer.)

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Editor
Scientific American
415 Madison Avenue
New York, NY 10017-1111

Dear Editor:

I wish the following to be considered for publication in an upcoming issue of Scientific American. My remarks address coverage of the zero-point energy topic in the November 19 Scientific American Frontiers PBS program with Alan Alda, and in the companion article in the December issue, in both of which our laboratory was featured.

"It was gratifying to see Scientific American again* address the topic of zero-point energy (ZPE), both in the Scientific American Frontiers PBS program hosted by Alan Alda (broadcast November 19th), and in the companion piece by Philip Yam in the December issue, "Exploiting Zero-Point Energy." Since our laboratory (the Institute for Advanced Studies at Austin) was featured in both treatments, we wish to offer the following comments based on our participation.

In our opinion the PBS segment, entitled New Energy Age, was quite successful in placing before the viewers an objective picture of research into the possibility that the ubiquitous ZPE could be tapped as an energy source. The program captured the willingness of scientists like ourselves to investigate this possibility, while at the same time showing the skepticism with which we approach any given claim, demonstrated on the program by our laboratory evaluation of one of many devices that did not live up to its claims. Also quite gratifying has been the lively follow-up activity on the Scientific American Frontiers web site (http://www.pbs.org/saf/) in which we answer viewers' questions.

In contrast, the article in the December issue appears to us to present a decidedly skewed perspective regarding current ZPE research. Although the technical issues are presented accurately, the context in which they are embedded would lead a reader unfamiliar with the field to conclude that much of ZPE research is driven by speculative fringe ideas rather than by mainstream research issues. For example, there is passing reference to a NASA propulsion workshop in which ZPE research was one of the major topics of discussion. In this mention we do not see highlighted the contributions of Chiao, Tipler or of a dozen other leading scientists whose work is often presented in the pages of Scientific American. Instead, we are treated only to one participant's complaint that during a breakout session "there was a guy talking about astral projection," clearly an attempt to paint a tawdry picture of the NASA meeting.

On the subject of whether the ZPE can be extracted for use beyond chemical energy levels, or manipulated to affect inertia at a detectable level, there is no mention that these are topics under serious discussion in Physical Review and other mainstream physics journals. Instead we are told only that there are some who consider investigation of such topics "pseudoscience that could leech funds from legitimate research." Overlooked is any counterpoint mention that the Institute for Advanced Studies at Austin featured in the article has through its investigations saved investor groups literally millions of dollars that might otherwise have been invested in unworkable devices promoted by enthusiastic but misguided inventors (see http://www.eden.com/~little); or that a detailed Air Force study has outlined a comprehensive program to study the implications of ZPE research for possible inertial mass modification.

Again, we have quotes from a Los Alamos researcher that express the skeptical side of the issue concerning the possibility of ZPE extraction, but are not told that, with his support and encouragement, two of his colleagues at Los Alamos have designed and are now constructing a quite innovative and complex ZPE energy conversion device based on the Casimir effect, to be used as an investigative tool to explore just this possibility.

Finally, as to the energy possibilities, the article ends with the cliché "if it sounds too good to be true, it probably is." Of course, healthy skepticism about the promise of ZPE conversion, as about the promise of, say, hot fusion, is fully justified. This is especially the case in an area such as ZPE research that is at the frontiers of both our physics understanding and engineering capability. However, given global energy concerns, disregard of any possible energy solution is a luxury that we can ill afford, and that would be irresponsible for the scientific community to embrace. Fortunately, the self-corrective merits of good science can be counted on to separate the wheat from the chaff, and to optimize the outcomes for potential application. In our opinion, it is this reliance on the scientific method, not polemics, that should guide our efforts."

*See T. Boyer, "The Classical Vacuum," Scientific American (August 1985). H. E. Puthoff, Ph.D., Director Institute for Advanced Studies at Austin Austin, Texas