Sonofusion Bubbles Up

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Sonofusion works, according the latest volley in the argument over the feasibility of acoustically driven nuclear fusion.

A collaboration of researchers from Purdue University and Rensselaer Polytechnic Institute has detected neutrons, with energies typical of certain fusion reactions, emanating from a container of a specially prepared mixture of benzene and acetone that was exposed to high frequency sound waves.

The sound waves produce tiny bubbles, which expand and then rapidly contract, generating high temperatures that the researchers believe lead to nuclear fusion reactions. The group announced similar results about two years ago, but faced ardent criticism over aspects of their experimental set up that could have created false positives in their data. In the earlier experiments they had used a beam of neutrons in an attempt to initiate the bubbles leading to sonofusion reactions.

Critics claimed the beam could have been mistaken for neutrons emitted by fusion reactions. In the new experiments, the researchers dissolved natural uranium into the solution, which acts as a source of bubble-initiating neutrons. They claim that the new technique eliminates any confusion in identifying the neutrons they measured coming from the experiment as the products of sonofusion reactions.

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