

Nicholas Christofilos and Chester Van Atta of Lawrence Radiation Laboratory, Livermore, told of smokatron experiments scheduled to start on 1 Sept. At mid-September we learned that the LRL group had started experiments aimed at trapping and compressing electron rings.

Next month modifications of the electron injector, which is part of the Astron controlled-fusion experiment, are scheduled to be finished. Energy will be increased from 3.7 to 4.2 MeV and current from 400 to 800-1000 A.

Comparing other methods of accelerating the ring, Sarantsev noted that resonant cavities would cost about \$100/joule, whereas the Berkeley proposal, to use a system of successive traveling pulses, would cost considerably less.

Princetonians Fail to Find Faster-than-Light Particles

Two Princeton experimenters have looked for particles that move with velocities always greater than the speed of light in a vacuum ("tachyons") and failed to find them. (Results are reported in *Phys. Rev.* **171**, 1357, 1968).

In 1962 Olexa-Myron Bilaniuk, V. K. Deshpande and E. C. George Sudarshan (*Amer. Jour. Phys.* **30**, 718, 1962) argued that faster-than-light particles could be accommodated by Einstein's special theory, and Gerald Feinberg more recently (*Phys. Rev.* **159**, 1089, 1967) found that relativistic quantum theory also can include such particles.

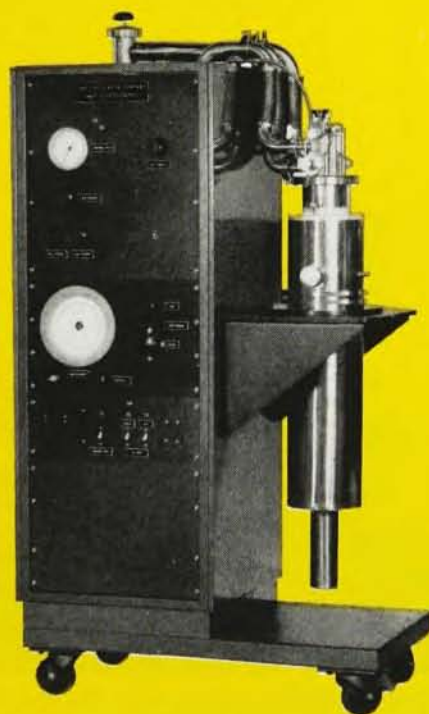
If one assumes that tachyons interact with ordinary particles and fields, one might spot them by the Cerenkov radiation they emit in a vacuum. Torsten Alväger and Michael N. Kreisler surrounded a gamma source with a lead shield and looked for charged tachyon pairs that would be formed in the shield. They applied an electrostatic field across two parallel plates in a vacuum of 10^{-6} torr and looked at the region between the plates with a photomultiplier.

The experimenters place an upper limit on charged tachyon production in lead of less than 3 microbarns for photon energies of 0.8 MeV.

Alväger, now at Indiana State University has begun a search for neutral tachyons, and Kreisler is trying to improve his experiment. □

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