John Harry Adlam 1924–2004

John Harry Adlam, one of the early contributors to accelerator design, died on 4 February. A colleague and great friend of mine for many years, John was contemporary with John and Mary Bell, and many other illustrious personnel at the British/American Laboratory based in The Lees, Great Malvern. This had been home to some of the early British scientific advances in accelerator physics. In 1952 John and I worked as a small team on dielectric measurements of titanium and barium oxide disks that had formed part of the structure of a dielectric-loaded linear accelerator, which was designed by R B R Shersby-Harvie et al. Sadly, this was before the phenomenon of multipactor had been discovered and the accelerator failed.

Interest had begun in accelerating protons in a linear accelerator structure and work moved to Harwell in 1954, where there was a project for a 300 MeV proton linac in conjunction with teams from several British universities. The project was truncated from 300 to 50 MeV following a major improvement in the efficiency of beam extraction from synchrocyclotrons.

There were difficulties in finding a solution to the focusing of protons in an accelerator as the known method in use relied on grid structures in the beam path that were lossy. John and I developed a system for cavity field measurement that was based on perturbation of the field with metallic and dielectric objects. At about the same time he produced a paper that turned out to describe the forerunner for the radiofrequency quadrupole, whose development came much later from the United States. That development revolutionized the difficult part of heavy-particle acceleration, namely the low-energy end of the spectrum where Cockcroft–Walton generators formerly held sway.

In 1955 John was moved from his previous work to join a team that was developing the "Dain" valve, a continuously pumped triode for use with the 50 MeV accelerator. The triode was used successfully on the accelerator at the Rutherford Laboratory, which came into being as a laboratory alongside Harwell but outside the security fence, as the work was open to all.

Later on, in 1963, John moved to Culham, where a fusion laboratory had been set up with John Adams as director, between his days at CERN as leader of the PS project and thereafter as leader of the SPS project.

John retired in 1989 and lived in Summertown, Oxford. He slipped on ice this year and was hospitalized. He died in hospital as a result of an internal haemorrhage from an untreated hemia.