Carl D. Anderson 1905-1991

Carl D. Anderson, best-known for his discovery of the positron in 1931, died on 11 January. As student of Robert Millikan at Caltech, he received his PhD in 1930, and at Millikan’s suggestion began to look at cosmic rays using a cloud chamber, building a detector with the highest magnetic field then available (25 kilogauss).

Suggestions of particles moving in the ‘wrong’ direction in this field were confirmed by mounting a sheet of lead across the chamber, and the discovery of the positron – the antiparticle of the electron – followed, confirming Dirac’s contemporary theory. At the time Anderson said ‘I knew about the Dirac theory... but was not familiar with it. I was too busy operating my equipment....’

Subsequently, with Seth Neddermeyer, he continued cloud chamber cosmic ray studies, finding initial evidence for what they called a ‘heavy electron’ and only ten years later was finally identified as the mu-meson, or muon.

For his positron discovery, he was awarded the 1936 Nobel Physics Prize, sharing it with Viktor Hess of Innsbruck, who was honoured for his discovery of cosmic rays. For his entire research career Anderson remained at Caltech, retiring in 1976.