This Swedish stamp celebrates the discovery of antimatter.

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Flowering Trees
(Credits: K Sankara Rao, IISc)
The First Observation of an Antiparticle

In 1932 Carl Anderson observed an intriguing particle in the cloud chamber which he was using to study cosmic radiation. In the cloud chamber charged particles give rise to a trail of condensed droplets with which many properties of the particle can be determined. There were several interpretations possible. With the assumption that it was a well-known particle, it was either an electron moving downwards or a proton moving upwards. After careful investigations it was possible to exclude both possibilities. The electric charge was determined to be positive, that is opposite to the charge of the electron. This positive particle had a mass close to that of the electron. Carl Anderson had actually identified the first antiparticle, the positron as he called it, the antiparticle of the electron. In 1936 he received the Nobel Prize for his discovery of the positron.

The positron moves upwards through a horizontal 3 mm lead plate and its trajectory is curved by a magnetic field. The direction was determined from the observation that the particle had lost energy going through the lead plate and was therefore curving more in the magnetic field.

(Colour scheme for cover by Jayant Rao)