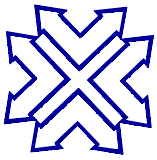
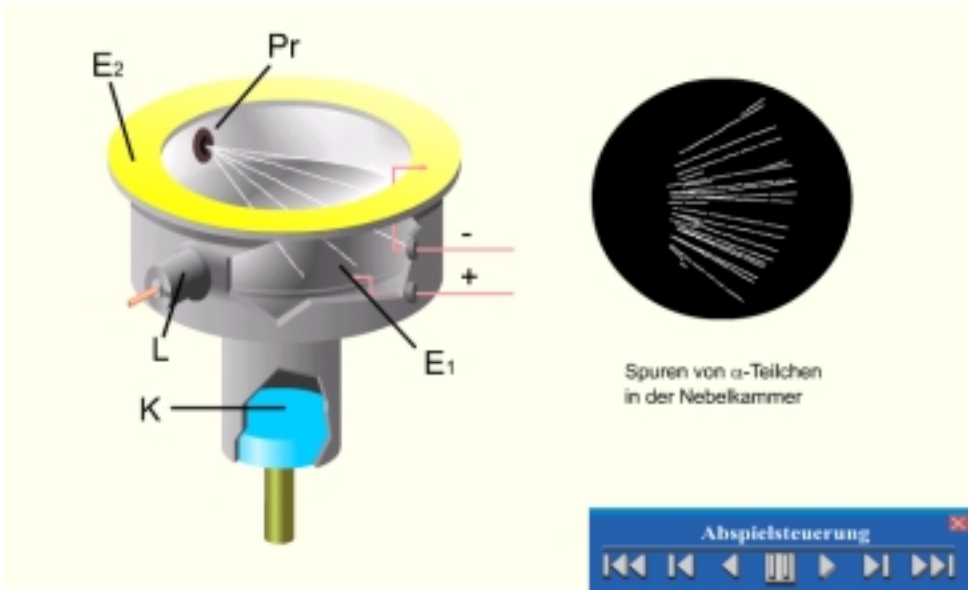


Cloud chamber



Attention: To see the animation, you need a player of macromedia (Flash5)
Author:: BIGS 2002 (C. Bluck, J. Gans, A. Gleixner, Prof. W. Heimbrodt, S. Stallmann)

Explanation

Key to diagram
Pr – alpha emitter;
K – piston for expansion;
E_1 – blackened metal disk (anode)
E_2 – wire ring (cathode)
L – lamp for lateral illumination

In the cloud chamber, the ionizing effect of radiation is used to make the path of charged particles (such as alpha particles) visible so that it can be photographed. As the piston is moved, adiabatic expansion of the air in the chamber results in supersaturation with water vapour. The ions created by alpha particles act as nuclei for condensation, forming cloud trails which indicate the path of the alpha particle. The electric field between E_1 and E_2 is used for the continuous collection of stray particles.