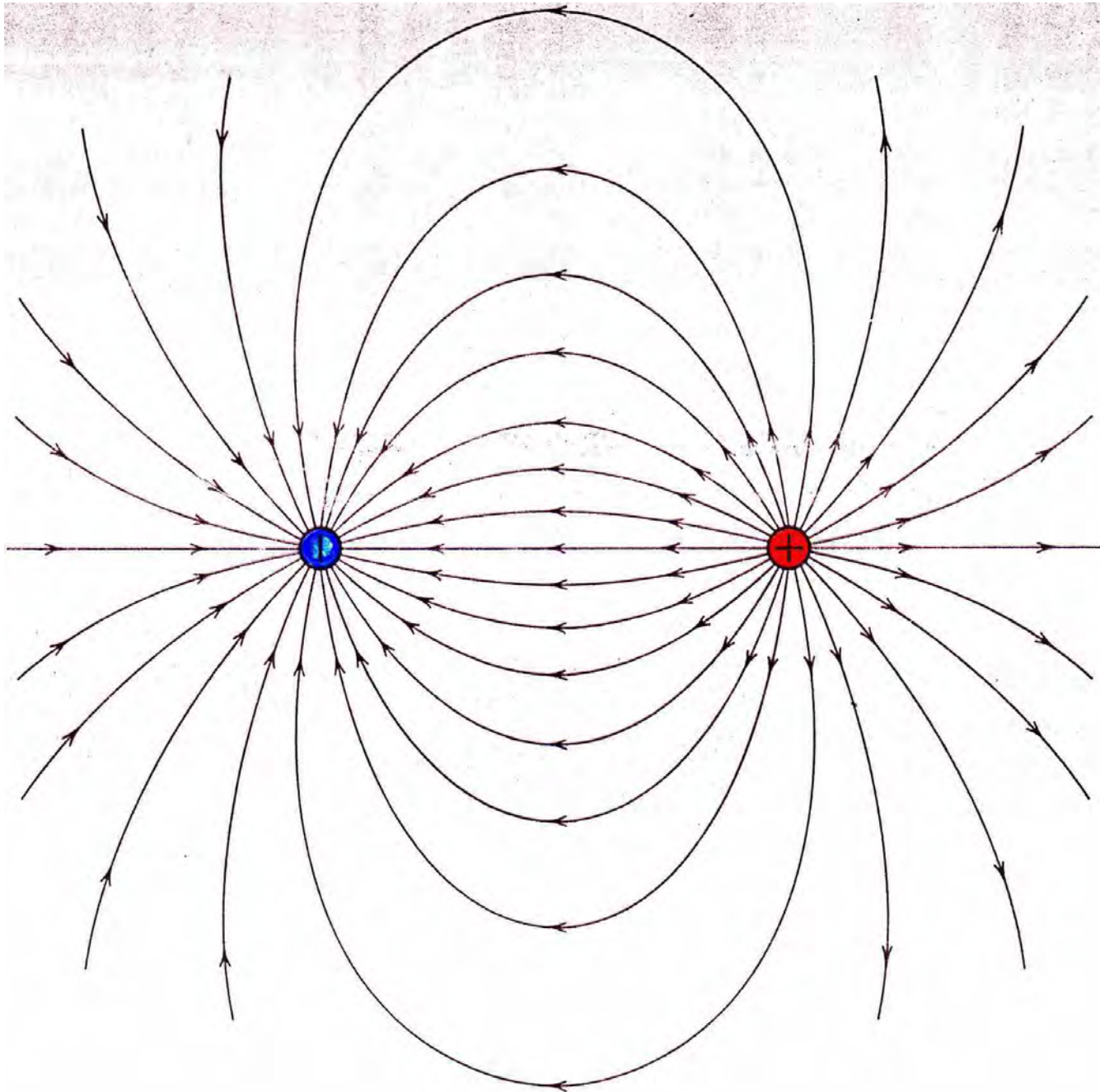
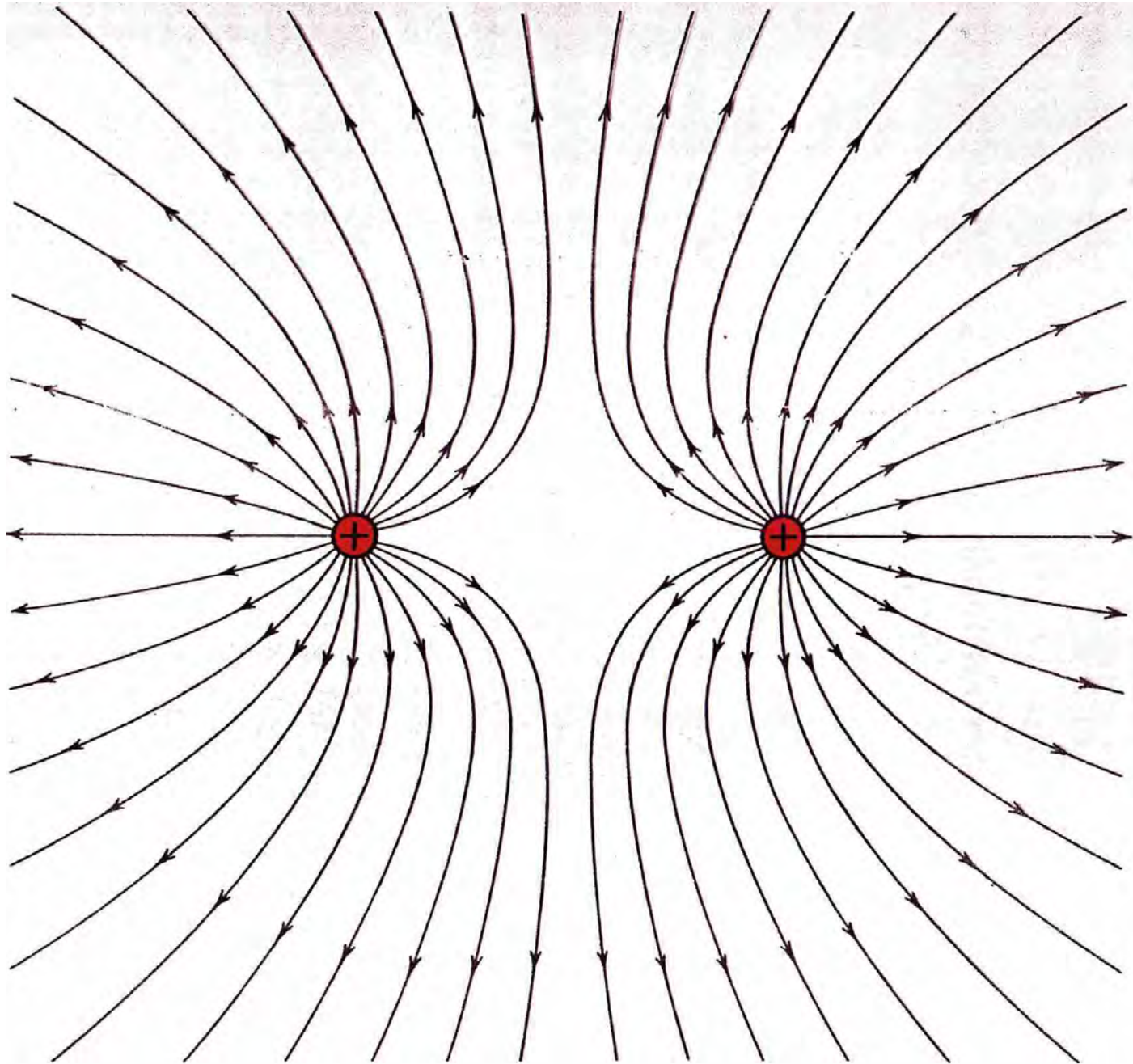


Feldlinien: 2 entgegengesetzte Ladungen



Feldlinien: 2 gleiche Ladungen



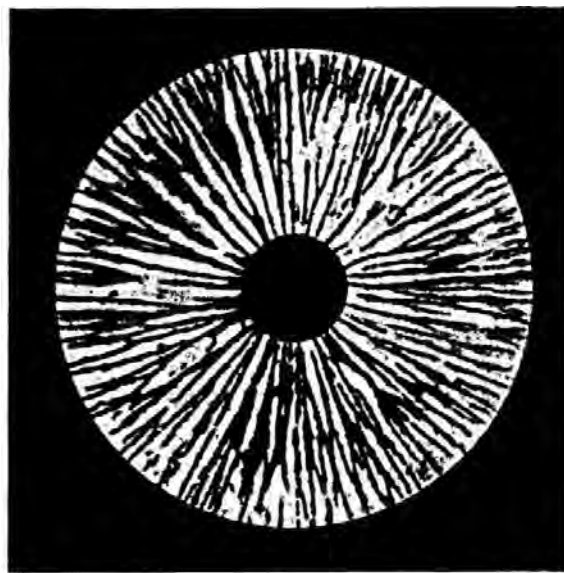


Abb. 19

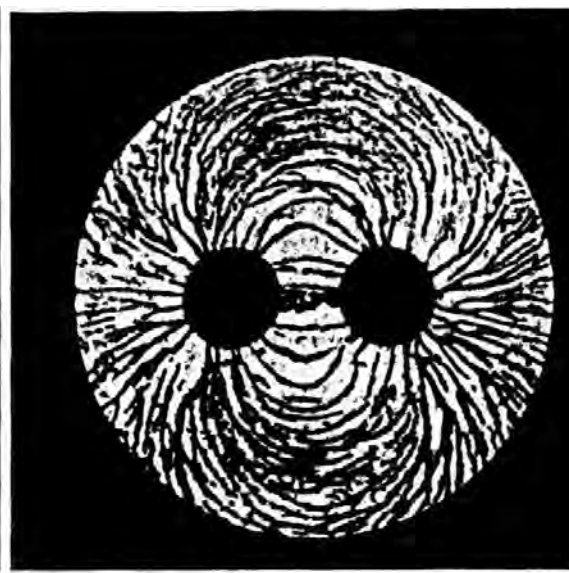


Abb. 20

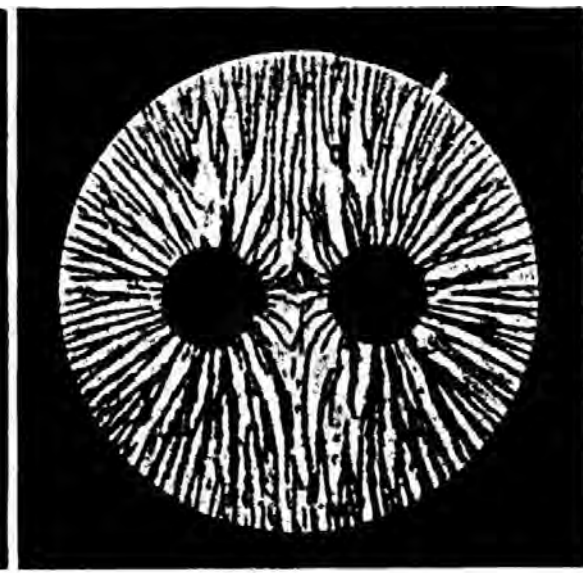


Abb. 21

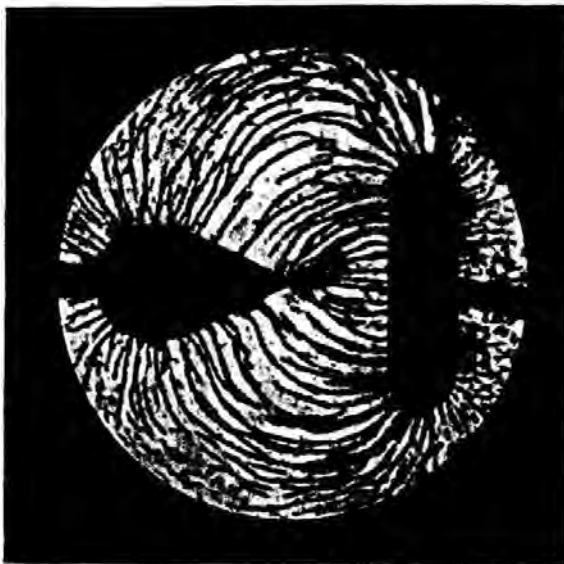


Abb. 22

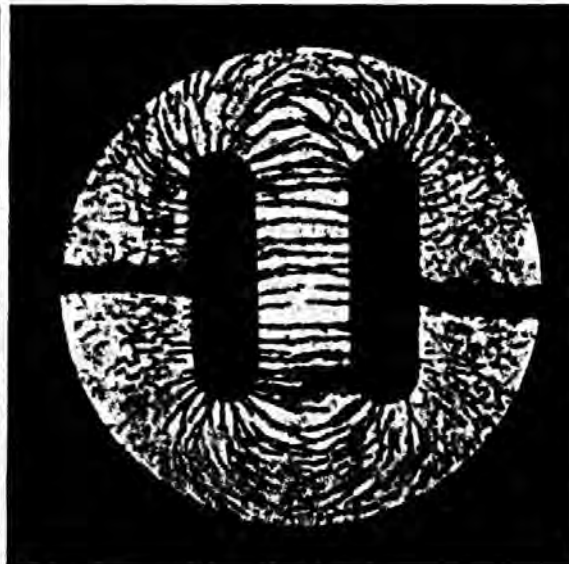


Abb. 23

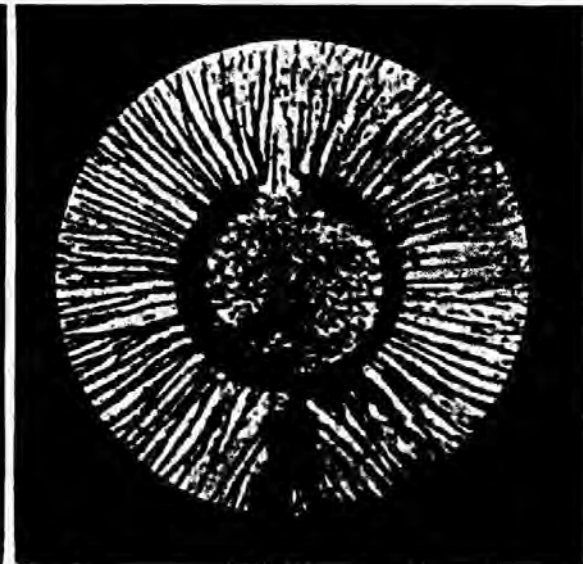


Abb. 24

Abb. 19–24 Elektrische Feldlinienbilder. Abb. 19 Einzelner geladener Pol; Abb. 20 Zwei entgegengesetzt geladene Pole; Abb. 21 Zwei gleichnamig geladene Pole; Abb. 22 Spitze und entgegengesetzt geladene Platte; Abb. 23 Zwei entgegengesetzt geladene, ebene Platten; Abb. 24 Geladener Hohlkörper mit kleiner Öffnung

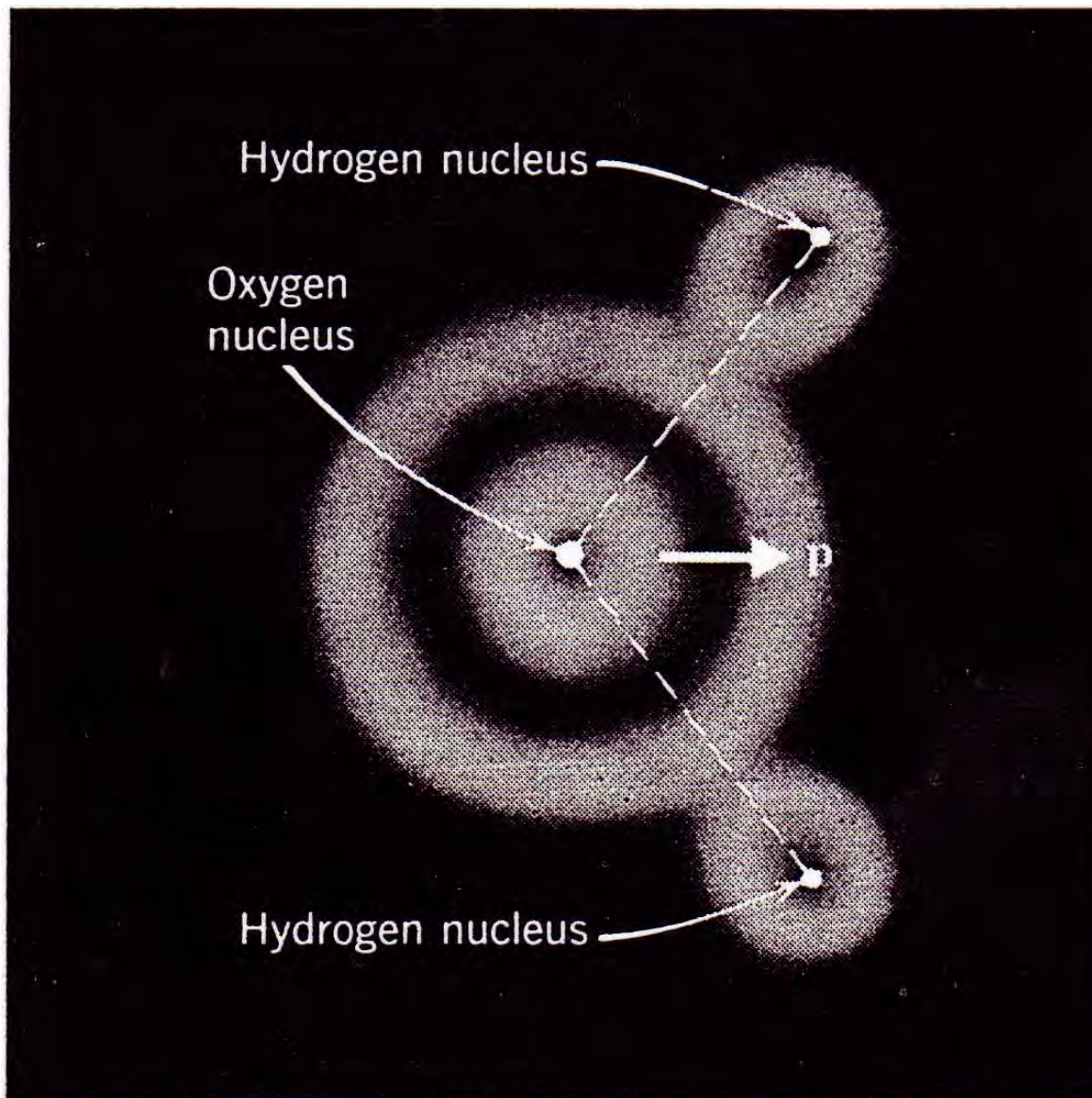


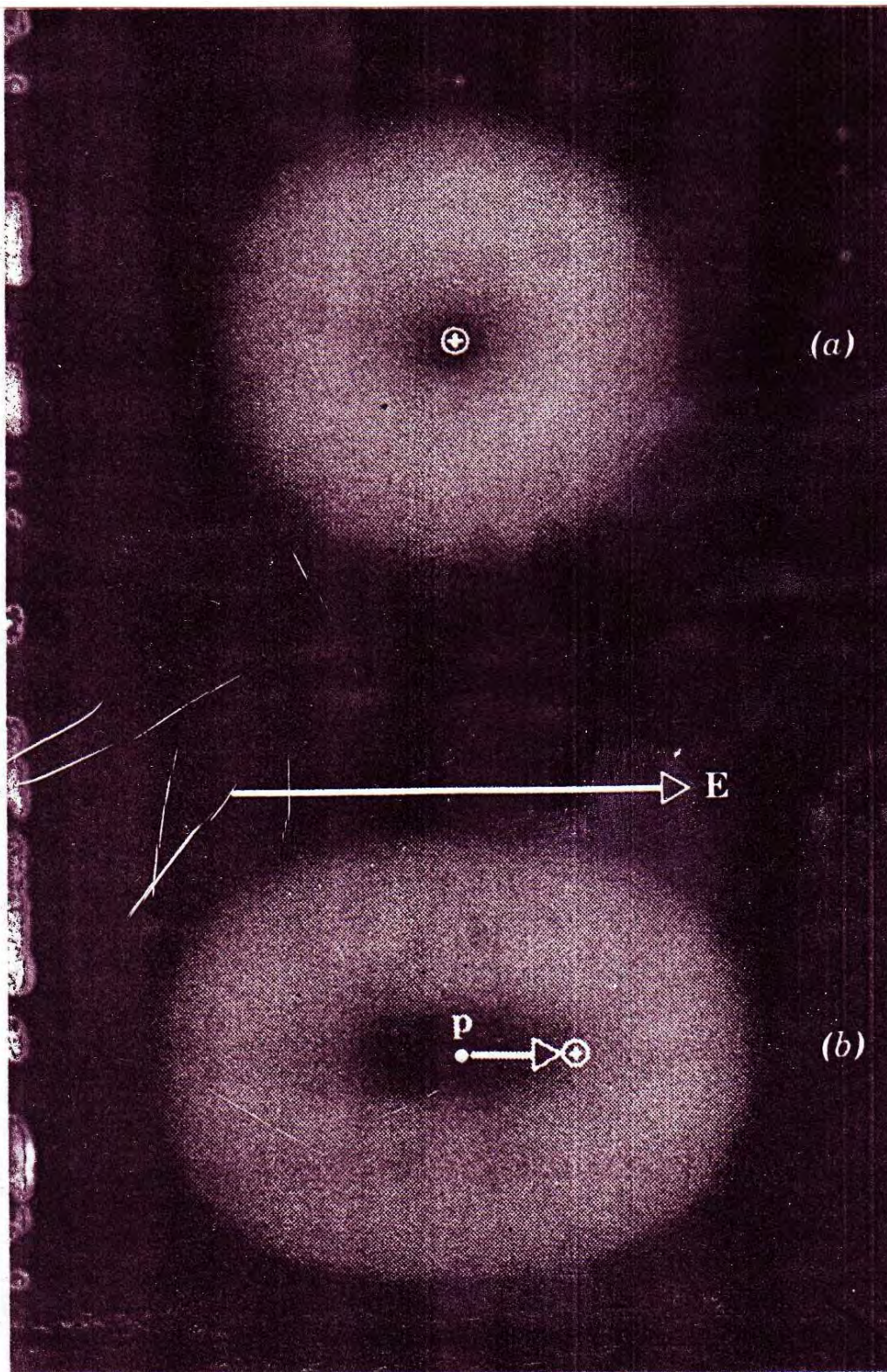
figure 29-11

A schematic representation of a water molecule, showing the three nuclei, the electron cloud, and the orientation of the dipole moment.

figure 29-12

(a) An atom, showing the nucleus and the electron cloud. The center of negative charge coincides with the center of positive charge, that is, with the nucleus. (b) If an external field E is applied, the electron cloud is distorted so that the center of negative charge, marked by the dot, and the center of positive charge no longer coincide. An electric dipole appears. The distortion is greatly exaggerated.

NICHT-
POLARES
MEDIUM



29-12

Braunsche Röhre

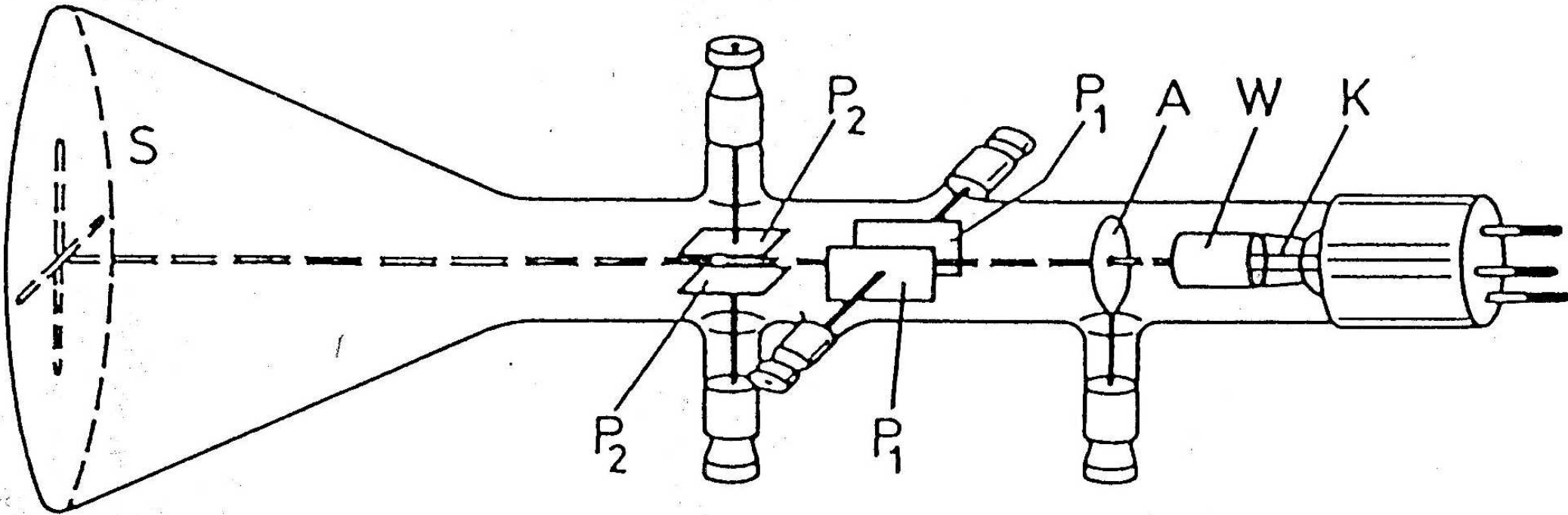
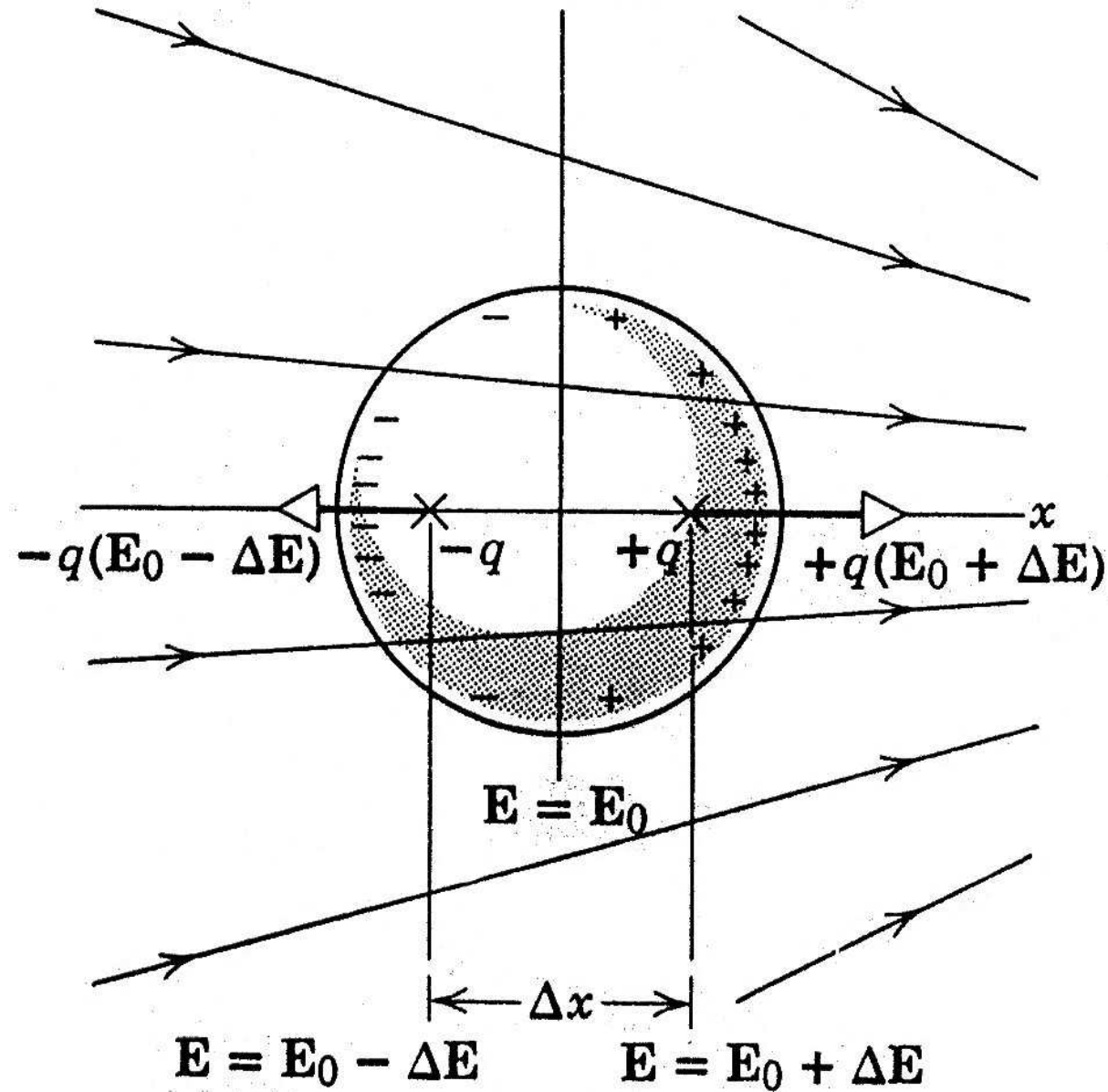


Abb. 502 Alte gaskonzentrierte Oszillographenröhre (Braunsche Röhre) mit Glühkathode K, Wehneltzylinder W, Anode A, Ablenkplatten P und Leuchtschirm S; (aus der Zeit um 1930)

Inhomogenes Feld: Kraft auf Influenzdipol



A hydrogen atom is composed of a nucleus containing a single proton, about which a single electron orbits. The electric force between the two particles is 2.3×10^{39} greater than the gravitational force! If we can adjust the distance between the two particles, can we find a separation at which the electric and gravitational forces are equal?

1. Yes, we must move the particles farther apart.
2. Yes, we must move the particles closer together.
3. no, at any distance