

Millikan-Versuch

$$\nu = 18.6 \cdot 10^{-6} \text{ Pas}; \quad \rho_{\text{air}} = 1.16 \text{ kg/m}^3; \quad \rho_{\text{oil}} = 900 \text{ kg/m}^3$$

a) $\nu = 3.7 \cdot 10^{-6} \text{ m/s}$

$$F_g = Vg\rho_{\text{oil}} = \frac{4}{3}r^3\pi g\rho_{\text{oil}}$$

$$F_R = \frac{v^2 C_D A \rho_{\text{air}}}{2} = \frac{v^2 0.43 r^2 \pi \rho_{\text{air}}}{2}$$

$$F_A = Vg\rho_{\text{air}} = \frac{4}{3}r^3\pi g\rho_{\text{air}}$$

$$F_{\text{tot}} = F_g - F_A - F_R =$$

b)

c)

Massenspektrograph - Parabelmethode

a)

b)

c)

Gruppengeschwindigkeit eines freien Teilchens

a)

b)

c)

d)