Potovalna hitrost

potovalna (drift) hitrost:

$v_d = \mu E$

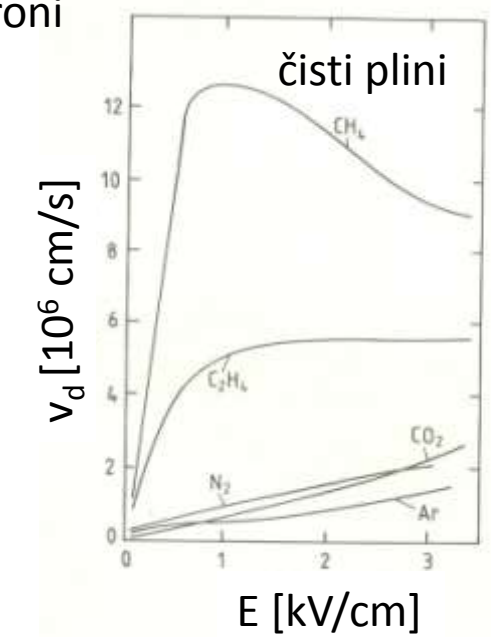
K. Kleinknecht, Detectors for Particle Radiation

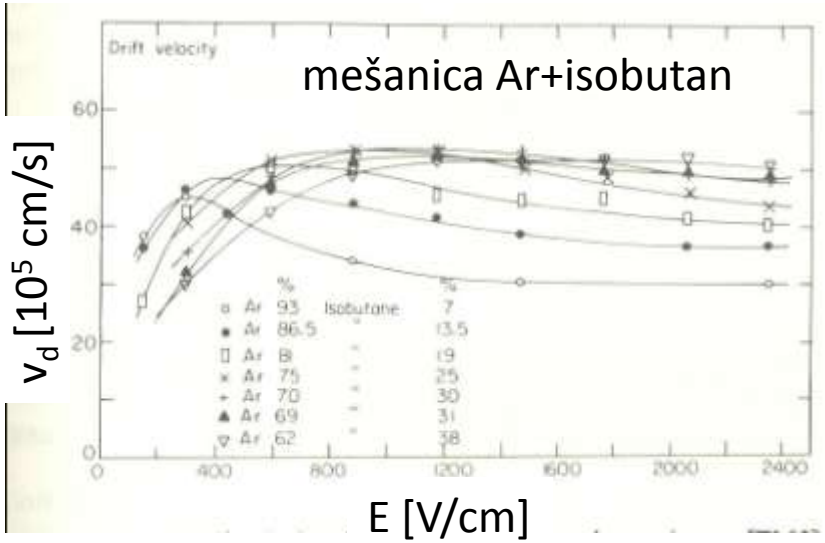
pozitivni ioni (stand. pogoji)

Gas	Mass number	u (cm/s)	D^+ (cm²/s)	μ^+ (cm²/s/V)	λ (10^{-5} cm)
H_2	2.02	1.8×10^5	0.34	13.0	1.8
He	4.00	1.3×10^5	0.26	10.2	2.8
Ar	39.95	0.41×10^5	0.04	1.7	1.0
O_2	32.00	0.46×10^5	0.06	2.2	1.0
H_2O	18.02	0.61×10^5	0.02	0.7	1.0

termična hitrost — difuzijski koef. — mobilnost

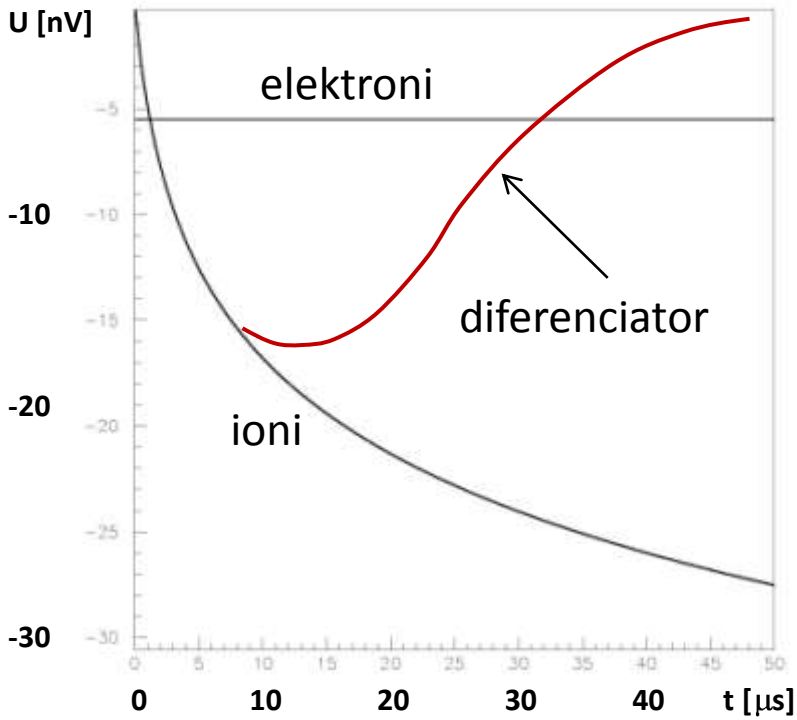
elektroni

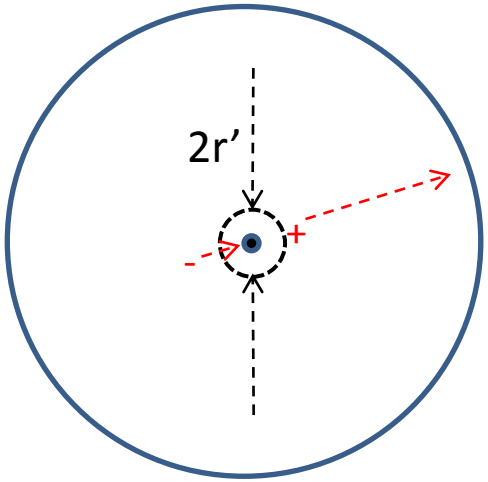




Časovni potek napetosti

napetost (enega samega naboja)





$$V^+(t) = \frac{-e}{2C\ln(b/a)}\ln(1+t/t_0^+)$$

$$V^-(t) = \frac{e}{2C\ln(b/a)}\ln(1-t/t_0^-)$$

$$t_0^+ = \frac{a^2\ln(b/a)}{2\mu^+ V_0} \qquad t_0^- = \frac{r'^2\ln(b/a)}{2\mu^- V_0}$$

$$C = \frac{2\pi\varepsilon_0 L}{\ln(b/a)},\ a = 0{,}1\,mm,\ \mu^+ = 1{,}7\ cm^2/Vs,\ L = 20\ cm,$$

$$\mu^- = 3\cdot 10^6\,cm^2/Vs,\ b/a = 200,\ r' = 1{,}5a,\ V_0 = 200\,V$$

$$t_0^+ \approx 1\mu s,\ t_0^- \approx 0{,}002\ t_0^+$$