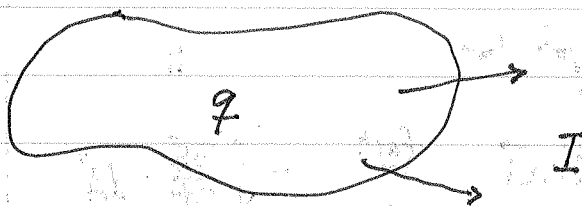


74B

Kontinuitetsligningen på differentialform:



$$\boxed{I + \frac{dq}{dt} = 0} \quad \text{integralform}$$

$$I = \oint_S \vec{j} \cdot d\vec{A} = \int_V (\nabla \cdot \vec{j}) dV$$

$$\frac{dq}{dt} = \frac{d}{dt} \int_V \rho dV \stackrel{\text{fast}}{\text{volumen } V} \int_V \frac{\partial \rho}{\partial t} dV$$

$\Rightarrow$

$$\boxed{\nabla \cdot \vec{j} + \frac{\partial \rho}{\partial t} = 0}$$

differentialform

9.10.06