- $\frac{d}{d\tau}(m u_\mu) = K_\mu$; $K_\mu = \gamma(\vec{F}, \frac{i}{c}\vec{F}\cdot\vec{v})$

- $d\vec{p}/dt = \vec{F}$; $dE/dt = \vec{F}\cdot\vec{v}$; $p_\mu = (\vec{p}, iE/c)$

- $E^2 = p^2c^2 + m^2c^4$

- $F_{\mu\nu} = \partial_\mu A_\nu - \partial_\nu A_\mu = \begin{pmatrix} 0 & B_3 & -B_2 & -\frac{i}{c}E_1 \\ -B_3 & 0 & B_1 & -\frac{i}{c}E_2 \\ B_2 & -B_1 & 0 & -\frac{i}{c}E_3 \\ \frac{i}{c}E_1 & \frac{i}{c}E_2 & \frac{i}{c}E_3 & 0 \end{pmatrix}$

$F'_{\mu\nu} = L_{\mu\alpha} L_{\nu\beta} F_{\mu\nu}$

Maxwell: $\partial_\nu F_{\mu\nu} = \mu_0 j_\mu$; $\partial_\nu G_{\mu\nu} = 0$

der $G_{\mu\nu} \mathrel{\hat{=}} F_{\mu\nu}$ med $-i\,E_j/c \longleftrightarrow B_j$