Heims Kontrabarische Gleichung:

$$\boxed{m = \frac{r}{2a}\left(1 \pm \sqrt{1 - \frac{4a\alpha}{r}}\right)} \qquad a = \frac{3\gamma}{32c^2}$$

$$E = mc^2, \quad dE = dm\,c^2 \qquad \alpha = m_0\left(1 - \frac{a m_0}{r_0}\right)$$

$$E_e = \pm \frac{1}{4\pi\varepsilon_0}\frac{e^2}{r}$$

$$dE_e = \frac{\partial E_e}{\partial e}de + \frac{\partial E_e}{\partial r}dr = dE$$

$$dE_e = \pm\frac{c^2}{b}\left(-\frac{e^2}{r^2}dr + 2e\frac{de}{r}\right) = c^2 dm, \quad b = 4\pi\varepsilon_0 c^2$$

$$\rightarrow \quad \frac{1}{r}\frac{dr}{dm} = \frac{1 - \frac{2\alpha}{m}}{m - \alpha}$$

$$\rightarrow \quad 2e\frac{de}{dm} - e^2\frac{1 - \frac{2\alpha}{m}}{m - \alpha} = \pm ab\frac{m^2}{m - \alpha}$$

$$\rightarrow \quad e = \pm\frac{m}{c}\sqrt{\frac{\gamma}{r_0(m - m_0)}\left[e_0^2 \pm \frac{4\pi}{\mu_0} r_0(m - m_0)\right]}$$

$$e = \pm 2\sqrt{\pi\varepsilon_0 r(\beta + mc^2)}, \qquad \beta = \frac{e_0^2}{4\pi\varepsilon_0 r_0} - m_0$$

$$\phi = \frac{e}{4\pi\varepsilon_0 r} = \pm\frac{1}{2}\sqrt{\frac{1}{4\pi\varepsilon_0 r}(\beta + mc^2)}$$

$$\mathcal{E} = \operatorname{grad}\phi = \pm\frac{1}{\sqrt{\frac{1}{\pi\varepsilon_0 r}(\beta + mc^2)}}\left[\frac{c^2}{\pi\varepsilon_0\gamma}(\operatorname{grad}\varphi) + \frac{1}{\pi\varepsilon_0}\operatorname{grad}\left(\frac{f}{r}\right)\right]$$

$$\mathcal{E} = \pm\left(\frac{c^2}{\gamma}\Gamma + \operatorname{grad}\left(\frac{f}{r}\right)\right)\left[4\sqrt{\frac{\pi\varepsilon_0}{r}(\beta + mc^2)}\right]^{-1}$$

$$\operatorname{div}\mathcal{E} = \operatorname{div}(f(r)\Gamma) + a\operatorname{div}\left[f(r)\operatorname{grad}\left(\frac{f}{r}\right)\right]$$

$$\operatorname{grad}\left(\frac{f}{r}\right) = 0 \longrightarrow \qquad \frac{1}{f} = \pm 4a\sqrt{\frac{\pi\varepsilon_0}{r}(\beta + mc^2)}$$

$$\boxed{\operatorname{div}\mathcal{E} = \Gamma\operatorname{grad} f + f\operatorname{div}\Gamma = \operatorname{div}(f\Gamma) = \frac{\varrho_{el}}{\varepsilon_0}}$$

$$E_g = \gamma\frac{m^2}{r}, \qquad m^2 = \frac{E}{c^2}$$

$$E_g = \frac{\gamma E^2}{c^4 r}$$

$$dE_g = \left(\frac{\partial E}{\partial r}dr + \frac{\partial E}{\partial E}dE\right)$$

$$dE_g = \frac{\gamma}{c^4}\left(-\frac{E^2}{r^2}dr + \frac{2E}{r}dE\right) = c^2 dm$$

$$\frac{dE_g}{dm} = \frac{1}{m}\frac{m - 2\alpha}{m - \alpha}E^2 = \frac{m^2c^4}{m - \alpha}$$

$$E = \pm\sqrt{r\left(\frac{c^6}{\gamma}m + K\right)}, \qquad K = \frac{E_{g0}^2}{r_0} - \frac{c^6}{\gamma}$$

$$K = 0, \quad m = \frac{\varphi_g r}{\gamma} \longrightarrow$$

$$E = c^3\frac{r}{\gamma}\sqrt{\varphi}$$

$$\eta = \frac{dE}{dV} = \frac{1}{4\pi r^2}\frac{dE}{dr} = \frac{c^3}{4\pi\gamma}\frac{1}{r^2}\frac{d}{dr}\left(r\sqrt{\varphi_g}\right)$$

$$\eta = \frac{c^3}{4\pi\gamma}\frac{1}{r^2}\left[\sqrt{\varphi_g} + r\sqrt{\varphi_g}\ln\varphi_g\right]$$

$$\dot{\eta} = \operatorname{div}\mathcal{E}\times\zeta, \qquad \xi = \frac{dK}{dV}$$

$$\boxed{\begin{aligned}\dot{\xi} = \operatorname{grad}\dot{\eta} &= \operatorname{grad}\operatorname{div}(\mathcal{E}\times\zeta) = \operatorname{rot}\operatorname{rot}(\mathcal{E}\times\zeta) + \Delta\operatorname{grad}(\mathcal{E}\times\zeta) = \\ &= \frac{c^3}{4\pi\gamma}\frac{d}{dt}\operatorname{grad}\left[\frac{1}{r^2}\left(\sqrt{\varphi_g} + r\frac{d}{dr}\left\{\sqrt{\varphi_g}\ln\varphi\right\}\right)\right]\end{aligned}}$$

Kontrabarische Gleichung
zur Erzeugung von Gravitationsfeld
Wirkungen aus dem Strahlungsnet

$$\chi = (\mathcal{E}\times\zeta)$$