```
23.04.
                       Z = \frac{1}{2} (\partial_{\mu} \varphi_{a}) (\partial^{\mu} \varphi_{a}) - U
where U = -\frac{1}{2} |\varphi_{a} \varphi_{a}|^{2} + \frac{1}{4} (|\varphi_{a} \varphi_{a}|^{2} + H_{a} \varphi_{a}) + H_{a} = (6 |\vec{\partial}|)
                                 (\varphi_{\alpha}\varphi_{\alpha})_{\alpha} \equiv \upsilon^{2} = \frac{6\mu^{2}}{\lambda 1} = \frac{\mu^{2}}{\lambda}
                             ( With p_a = (\underbrace{v + 8\sigma(a)}_{\sigma(a)}, \widehat{\pi}(a)) one finds m_{\pi} \sim \epsilon and m_{g_{\sigma}}^2 = 2\mu^2)
                       \mathcal{J} = \frac{1}{2} \left( (\partial_{\mu} \sigma) (\partial^{\mu} \sigma) + (\partial_{\nu} \vec{\pi}) (\partial^{\mu} \vec{\pi}) \right) + \frac{1}{2} \mu^{2} \left( \sigma^{2} \cdot \vec{\pi}^{2} \right) - \frac{\lambda}{4} \left( \sigma^{2} \cdot \vec{\pi}^{2} \right)^{2} + \sigma_{G} 
                            (\pi i + \sigma) \frac{1}{\sqrt{2}} = \phi \wedge \delta \pi = \hat{\pi} 
                       \chi = (J^{\mu}\phi)(J_{\mu}\phi_{\mu}) + h_{5}\phi\phi_{\mu} - \frac{5}{7}(\phi\phi_{\mu})_{5} + \frac{25}{8}(\phi+\phi_{c})
                          EOM \frac{3\alpha}{3\alpha} = 3r \left(\frac{3\alpha}{3\alpha}\right)
                       paramatrice = sei
                                                                                                                                        \Rightarrow \partial_{\mu} \phi = \left[ (\partial_{\mu} s) + \iota(\partial_{\mu} u) s \right] e^{i \vartheta} \quad , \quad \partial_{\mu} \phi + (\partial_{\mu} w) = \left[ (\partial_{\mu} s) (\partial^{\mu} s) + s^{2} (\partial_{\mu} u) (\partial^{\mu} u) \right]
                                                   φ= Se

⇒ 9,2° φ = 9, [(2,5) e<sup>1)</sup> + (2,2)(se<sup>1)</sup>]
                                                                               = \left( \left[ \partial_{r} \partial^{2} S - \left( \frac{\partial_{r} J}{\partial r} \right) \partial^{2} J \right) S \right] + c \left[ \frac{2(\partial_{r} S) (\partial^{2} J)}{-\frac{2}{3} (\partial_{r} S^{2}) (\partial^{2} J)} \right] e^{iJ}
                         Re(EOM/e^{i\omega}) \Pi S = (\gamma^2 + \mu^2 - \lambda S^2)S + \frac{G}{12}
                                                                                                                                                                                                   (EOM 1)
                         Jm (EDM/ew) 1/3 2/(82) m) = 0
                                                                                                                                                                                                    (EOM 2)
            Noether currents:
                                                                                                                                                                                                                                             HYDRODYNAMICS
                  αly = 3(3 φ) 24 - 3(2 φ) 24 = ν [(3, φ, )φ - (3, φ) φ,]

mper φ - 3 φ, (3φ - πφ)
                                                                                                                                                                                                                                                                 \int_{-\infty}^{\infty} \int_{-\infty}^{\infty} v^{\mu} \qquad (v^{\mu}v_{\mu} = -1)
\int_{-\infty}^{\infty} \int_{-\infty}^{\infty} \int_{-\infty}^{\infty} (e^{\mu} + e^{\mu})v^{\mu}v^{\nu} - g^{\mu\nu} e^{\mu}
                                                                           = ix [(2,2)3 - 8/2,6)32 - 8(2,5)3 + 8(2,2)3 =
                                                                                                                                                                                                                                                     \Rightarrow n_S = \int_{\Gamma} \int_{\Gamma} 
\epsilon_S = \nu_F \nu_{\nu} \int_{\Gamma} \Gamma^{\nu}
                   \frac{1}{1} m = \frac{\sqrt{2}}{5} \frac{2^{3}m}{2(2\pi)^{3}} = 5 \frac{3^{3}m}{5} - 3_{m} x = 5 (32)(32) + 8(32)(32) - 3_{m} x
                                                                                                                                                                                                                                                                      Ps= - 13 (gm - 0,00) Th
                                 \Rightarrow n_s = 2g^2 \eta \qquad \wedge vr = \frac{2r \eta}{\eta} \qquad (\Rightarrow vr \partial_r \eta = \eta)
= 2\eta \frac{\eta^{3+r}}{\eta}
                                                                                                                                                                                                                                                                    \eta = \eta(\epsilon_s) = 1
                                                                                                                                                                                                                                                              Ind = yor

\in ^{2} = 56_{5}\Lambda_{5} - \chi = \Pi_{8} - \frac{57}{(N_{1}+k_{1})_{5}} = \frac{57}{47_{5}(J_{1}+k_{2})} \cdot (J_{1}+k_{1})} \cdot (J_{1}+k_{1})

                                                                                                                                                    = \frac{3\eta^{4} + 2\eta^{3}\mu^{3} - \mu^{4}}{3(\eta^{2} + \mu^{3})(\eta^{3} + \mu^{3})} = \frac{(3\eta^{2} - \mu^{3})(\eta^{3} + \mu^{3})}{3(\eta^{2} + \mu^{3})}
                                                                                                                                   \iff \frac{2\lambda}{3} \in_S = N^{\frac{1}{4}} + \frac{2\mu^2}{5} 2^{\frac{1}{4}} - \frac{\mu^4}{3} \iff (\eta^2)_{12} = -\frac{\mu^2}{3} \pm \sqrt{\frac{\mu^2}{3}} + \frac{\mu^2}{3} \pm \frac{2\lambda}{3} \in_S
                      Solutions of EDM assuming In In I = 0 -> In I = pr = const
                                          ⇒ S = court
                                          S = \sqrt{\frac{1}{1+\mu_1}} + O(\epsilon)
                             Z | EDM (6.00) = 82 /2 + 1282 - 2 84
                                                              = \left( \frac{1}{\lambda}^{4} + \frac{1}{\lambda^{2}} + \frac{1}{\lambda^{2}} + \frac{1}{\lambda^{2}} + \frac{1}{\lambda^{4}} \right) - \frac{\lambda}{2} \left( \frac{1}{\lambda^{4}} + \frac{1}{\lambda^{2}} + \frac{1}{\lambda^{4}} \right)
                                                             = \frac{1}{2\lambda} + \frac{2\eta^{1/2}}{2\lambda} + \frac{\mu^{1/2}}{2\lambda} = \frac{(\eta^{1/2})^2}{2\lambda}
```