Nacher-Modell für $D=0,\ \varepsilon=0$

$$\delta_R \nearrow x \searrow \delta_D(t) \qquad \dot{x} = \delta_R - \underbrace{\delta_D(t)}_{=\delta_D + w(t)} \cdot x$$

$$\langle ww \rangle = 2\eta\,\delta(\tau)$$

Def: $w(t) = \sqrt{2\eta}\,\Omega(t)$

$$\Rightarrow \begin{cases} \langle ww \rangle = \langle \sqrt{2\eta}\,\Omega \cdot \sqrt{2\eta}\,\Omega \rangle = (2\eta)\langle \Omega\Omega \rangle \\ \langle ww \rangle = (2\eta)\,\delta(\tau) \end{cases}$$

$$\Rightarrow \langle \Omega\Omega \rangle = \delta(\tau) \quad \checkmark$$

Somit: $\dot{x} = \delta_R - (\delta_D + \sqrt{2\eta}\,\Omega(t))\,x$

$$\dot{x} = \underbrace{[\delta_R - \delta_D x]}_{f} + \underbrace{[-\sqrt{2\eta}\,x]}_{g}$$

$$g^2 = 2\eta x^2 \Rightarrow \frac{d}{dx} g^2 = 4\eta x$$

$$A(x) = \delta_R - \delta_D x + \frac{\varepsilon}{4} 4\eta x = \delta_R + (\varepsilon\eta - \delta_D)\,x$$

$$B(x) = \frac{1}{2} \cdot 2\eta x^2 = \eta x^2$$

$$\left.\begin{array}{l} A(x\to\infty) \to (\varepsilon\eta - \delta_D)\,x \\ B(x\to\infty) \to \eta x^2 \end{array}\right\} \Rightarrow I(x\to\infty) \to \left(\frac{\varepsilon\eta - \delta_D}{\eta}\right) \underbrace{\int_{x_{min}}^{x} s^{-1}\,ds}_{\ln(x/x_{min})}$$

$$\Rightarrow \exp[I(x\to\infty)] = (x/x_{min})^{\varepsilon - (\delta_D/\eta)}$$

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$$\Rightarrow P(x \to \infty) \to \frac{N}{\eta} x^{-2} (x/x_{min})^{\varepsilon - (\delta_0/\eta)}$$

$$= \left(\frac{N x_{min}^{-2}}{\eta}\right) \underbrace{(x/x_{min})^{-2} (x/x_{min})^{\varepsilon - (\delta_0/\eta)}}_{(x/x_{min})^{\varepsilon - 2 - (\delta_0/\eta)}}$$

<u>Somit</u>: $P(x \to \infty) \to x^{[\varepsilon - 2 - (\delta_0/\eta)]}$

Das Resultat aus dem Nacher - Paper

ergibt sich für $\varepsilon = +1$.

Dann gilt $P \sim x^{1-2-(\delta_0/\eta)} \sim x^{-1-(\delta_0/\eta)}$

$$\sim x^{-(1+\frac{\delta_0}{\eta})} \quad ✓$$