

Preheating (linear theory)

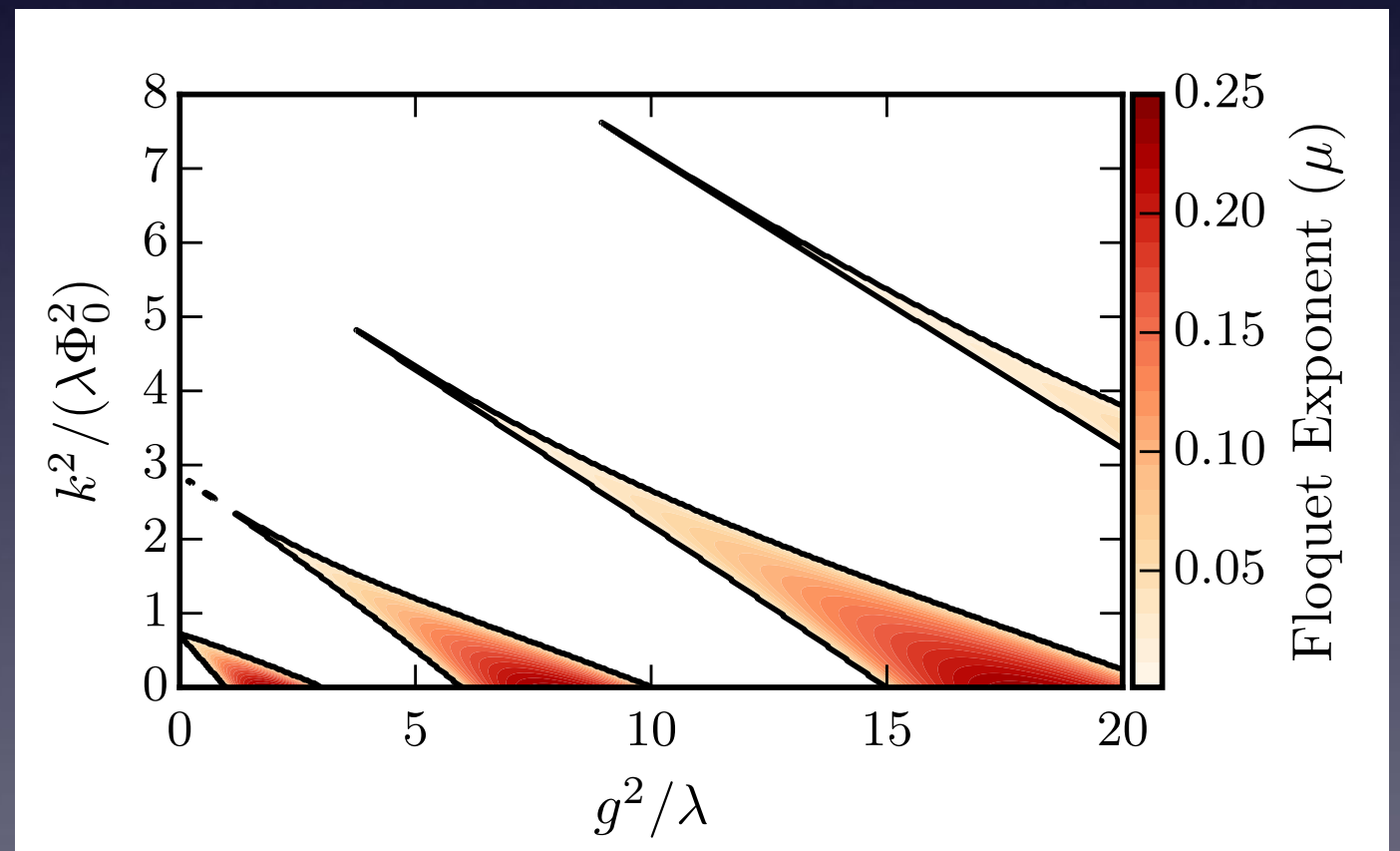
[e.g. Traschen, Bradendberger /
Kofman, Linde, Starobinski]

$$V(\phi) = \frac{\lambda}{4}\phi^4$$

$$\phi = \bar{\phi}(t) + \delta\phi$$

$$\delta\ddot{\phi} + (k^2 + V''(\bar{\phi})) \delta\phi = 0$$

In linear theory, $\bar{\phi}$
acts as an external driver
for the fluctuations



Full treatment includes backreaction and rescattering

Volume
Var: lnrho
3.000
1.500
0.000
-1.500
-3.000
Max: 2.783
Min: -4.958

