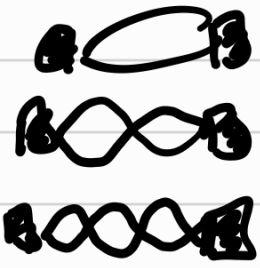
1st simulate 1D chain oscillators

monomonomono

$F \sim kx$

dynamics described by non-interacting normal mode



For a more general case nuclei start to interact

$k \sim kx + \alpha x^2 + \beta x^3$

~> they save 97% return to initial state