Hybrid systems in mechanical engineering

- continuous systems with "sudden" transitions e.g. mechanical systems with backlash, amplitude constraints, saturation, moving parts with dry friction.

- Consider a dry-friction oscillator model

\[
\alpha_4 \cos(\omega t)
\]

- Complex Dynamics. We set the parameters to \(\alpha_1 = \alpha_2 = 1.5, \alpha_3 = 0.45, \alpha_4 = 0.7\)