1. Crown of Lissajous

Equations

 $x(t) = \hat{x}\cos(\omega_x t + \varphi_x) \quad \text{and} \quad y(t) = \hat{y}\cos(\omega_y t + \varphi_y).$

With $\hat{x} = \hat{y} = 1.5$, $\omega_x = 2$, $\omega_y = 9$, $\varphi_y = 0$ and a variation of the phase φ_x we get the following animation.