



- \*\*Chaotic orbits\*\* are hard to predict and chew up CPU cycles.
- \*\*Spiral Spring Penalty\*\* (one tunable term  $\lambda$ ) nudges paths into a neat golden spiral.
- Cleaner motion = faster simulations, smoother game physics, stabler science models.
- $\bullet$  Dial  $\lambda$  to zero and you're instantly back to plain Newton—zero long-term lock-in.

Try it in the open notebook: github.com/badger-spiral/quickstart