

γ unit speed?

Yes

No

Compute Frenet
frame $\{\dot{\gamma}, \mathbf{n}, \mathbf{b}\}$



$$\kappa = \|\ddot{\gamma}\|$$

$$\tau = -\dot{\mathbf{b}} \cdot \mathbf{n}$$

Yes

Can you compute
unit speed
reparametrization?

\Downarrow No

Use formulas

$$\kappa = \frac{\|\dot{\gamma} \times \ddot{\gamma}\|}{\|\dot{\gamma}\|^3}$$

$$\tau = \frac{(\dot{\gamma} \times \ddot{\gamma}) \cdot \dddot{\gamma}}{\|\dot{\gamma} \times \ddot{\gamma}\|^2}$$

Warning

κ only defined
for regular γ

τ only defined for
regular γ with $\kappa \neq 0$