

as such take t^* s.t

$$u - \frac{1}{2} t^2 \lambda + s(t^*) = v$$

for

$$u - \frac{1}{2} t^2 \lambda$$

Then $u - \frac{1}{2} t^* \lambda + s(t^*) - v = 0$

let $u - \frac{1}{2} t' \lambda = v$, $u - \frac{1}{2} t'' \lambda = v - 2\delta$

then claim $t' < t^*$

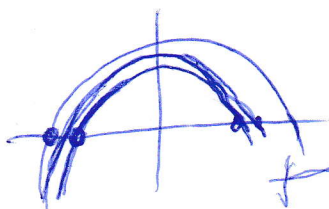
want

The connected component containing the origin.

So once you scale by u , this still gets scaled by u .

need to check this formally.

lower bound is (in 1D):



connected component is within

$B^- \rightarrow B^+$ as all in $B^- > u$, none outside B^+ (in h) are!

$$-\varepsilon = v - u + \frac{1}{2} t^2 \lambda \Rightarrow t = \sqrt{\frac{2(u - v - \varepsilon)}{\lambda}}$$

really.

So choose h s.t $P(u - h < u - v < h)$ well $\sqrt{\frac{2(u - v - \varepsilon)}{\lambda}} < h$!

holds for high V as $u - v \sim \exp(1)$ so then the connected loop containing the origin is there within $B(h)$!