

(92)

But

$$\rho_{0, t_n}(c) = \int_{t_n}^0 \left| \frac{dc}{dt} \right| = \int_{t_n}^0 \left| df \left(\frac{dc}{dt} \right) \right|$$

$$\geq \int_{t_n}^0 \left| \frac{dc}{dt} \right| \geq d(c(t_n), c(0))$$

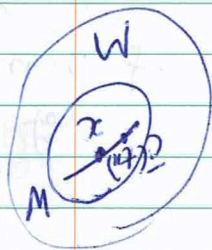
hypothesis

impossible for given c

Now $\{c(t_n)\} \subset K$

\exists accumulation pt $x_0 \in M$, $\exists W$

$f|_W$ diffeo, then $c(t_n) \in f(W)$
 \exists interval $I \subset [0, 1]$, $t_0 \in I$
 $c(I) \subset f(W)$



Lift $c(I)$ through α which agrees with \bar{c} on $[0, t_n) \cap I$ (α diffeo local)

\therefore this lift extends \bar{c} to I

\therefore to $e \in A$. $\therefore A$ is open. $\therefore A = [0, 1]$

By the following fact:

$f: M \rightarrow N$ locally simply connected
 f : local diffeo, path lifting
 N : locally simply connected
 \therefore then f is a covering map.