Theorem A:

Accessibility is open and dense

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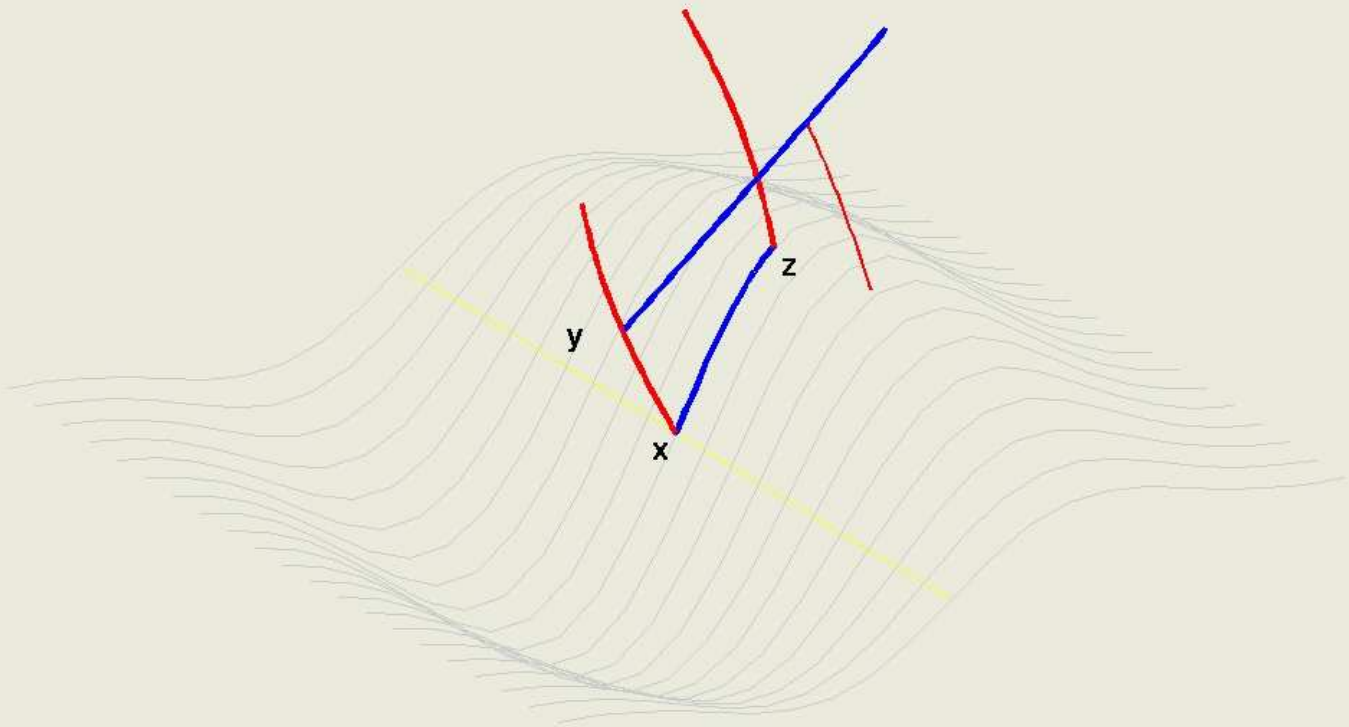
  - The following statements are equivalent:
    - $x \in U(f)$
    - $AC(x)$ has non empty interior
    - $AC(x) \cap W^c_{loc}(x)$ has non empty interior

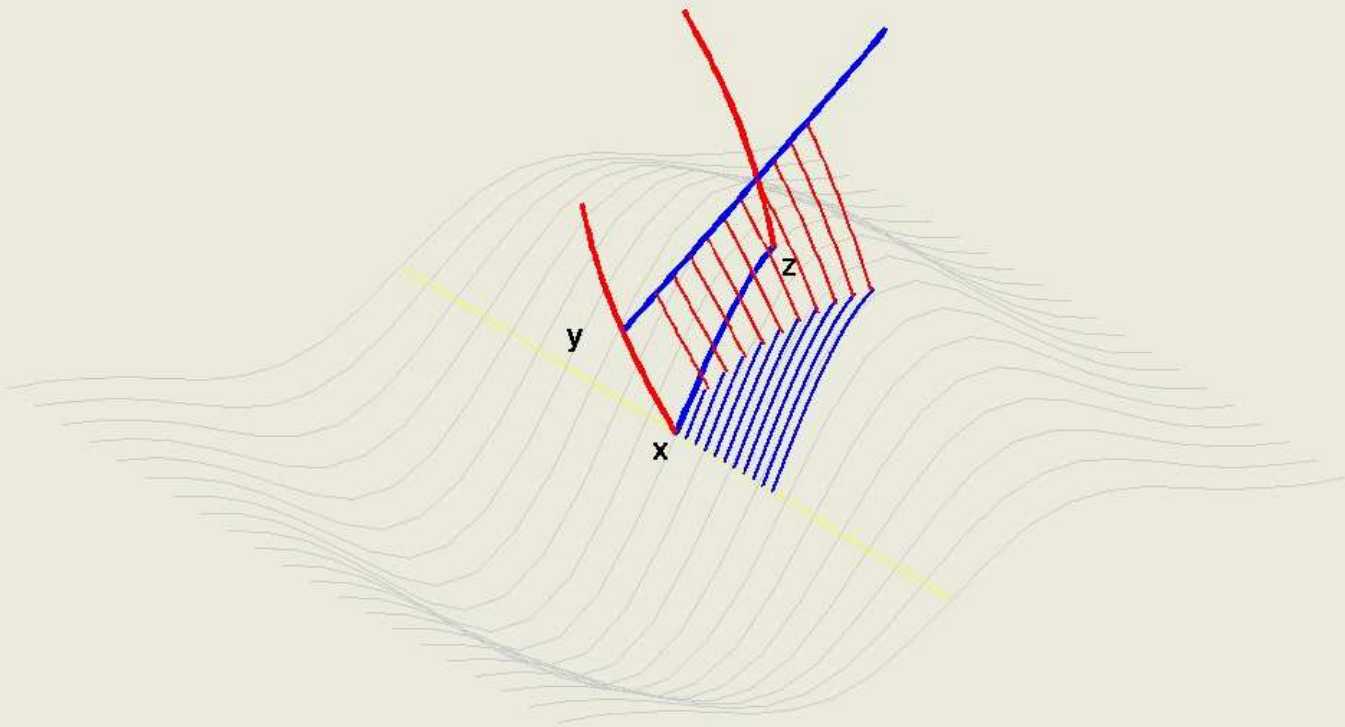
$AC(x)$ is open



$x \in U(f)$ if $\mathcal{W}^s_{loc}(y) \cap \mathcal{W}^u_{loc}(z) = \emptyset$

for some $y \in \mathcal{W}^u_{loc}(x)$ and $z \in \mathcal{W}^s_{loc}(x)$

$AC(x)$ is open



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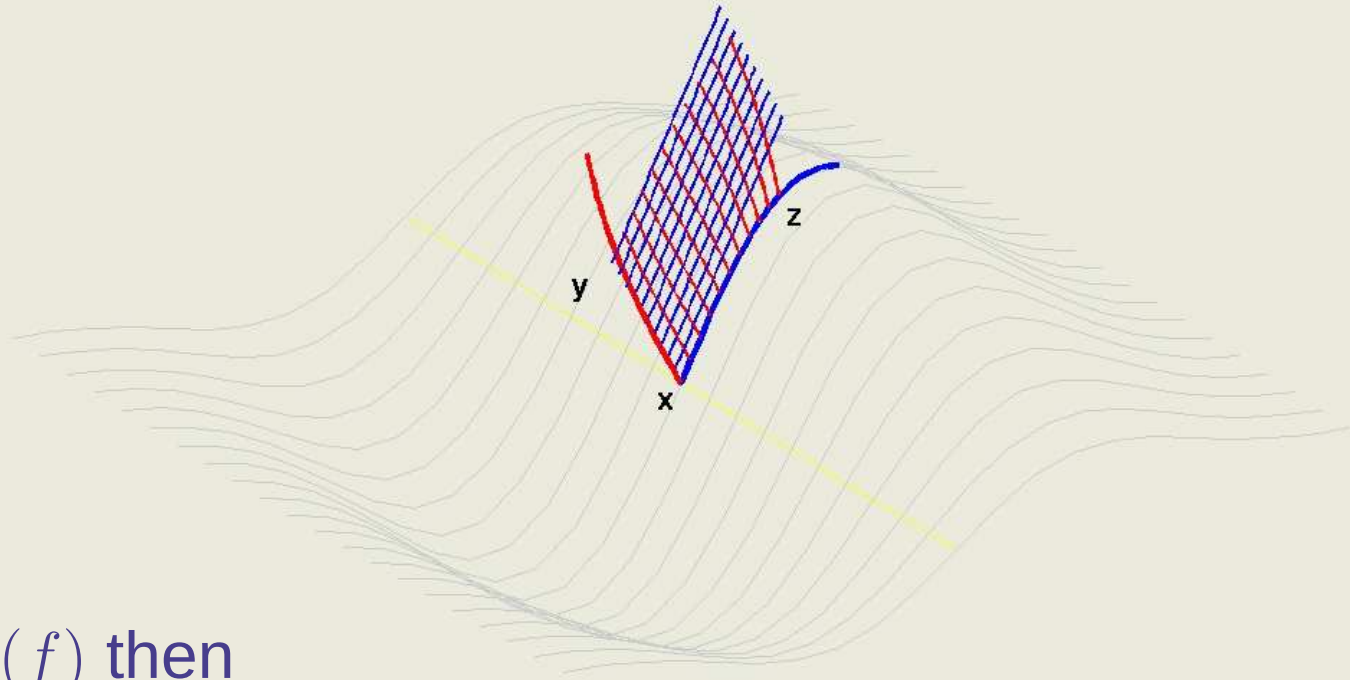
for some $y \in \mathcal{W}^u_{loc}(x)$ and $z \in \mathcal{W}^s_{loc}(x)$

$AC(x)$ is not open

$$\Gamma(f) = M \setminus U(f)$$

is compact invariant and su-laminated

$E^s \oplus E^u$ integrable



if $x \in \Gamma(f)$ then

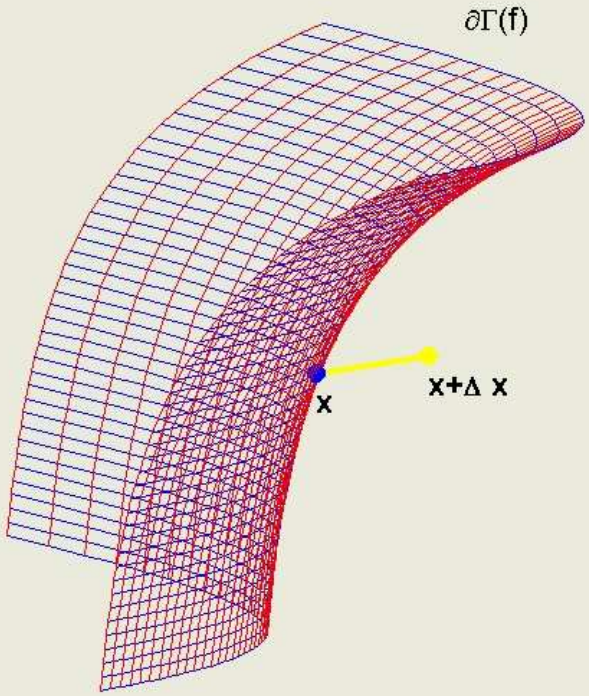
$$\mathcal{W}^s_{loc}(y) \cap \mathcal{W}^u_{loc}(z) \neq \emptyset$$

$\forall\, y \in \mathcal{W}^u_{loc}(x)$ and $z \in \mathcal{W}^s_{loc}(x)$

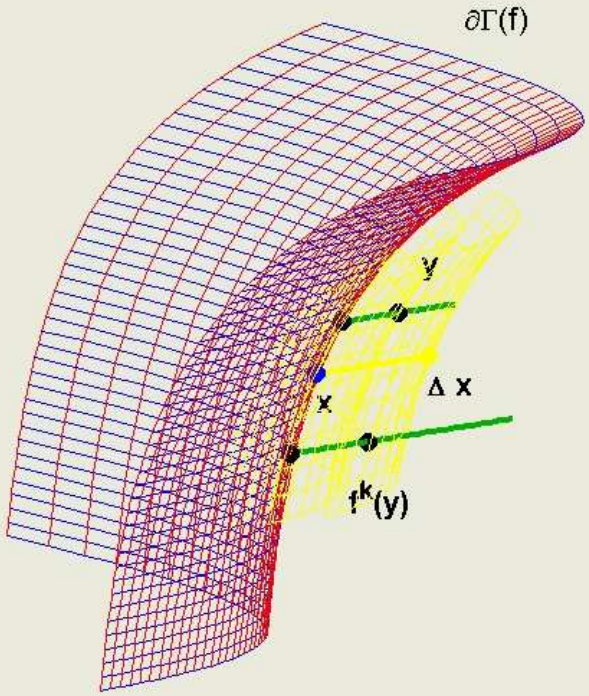
periodic points in $\Gamma(f)$

$$\emptyset \neq \Gamma(f) \neq M \quad \Longrightarrow \quad Per(f) \cap \Gamma(f) \neq \emptyset$$

periodic points in $\Gamma(f)$



periodic points in $\Gamma(f)$



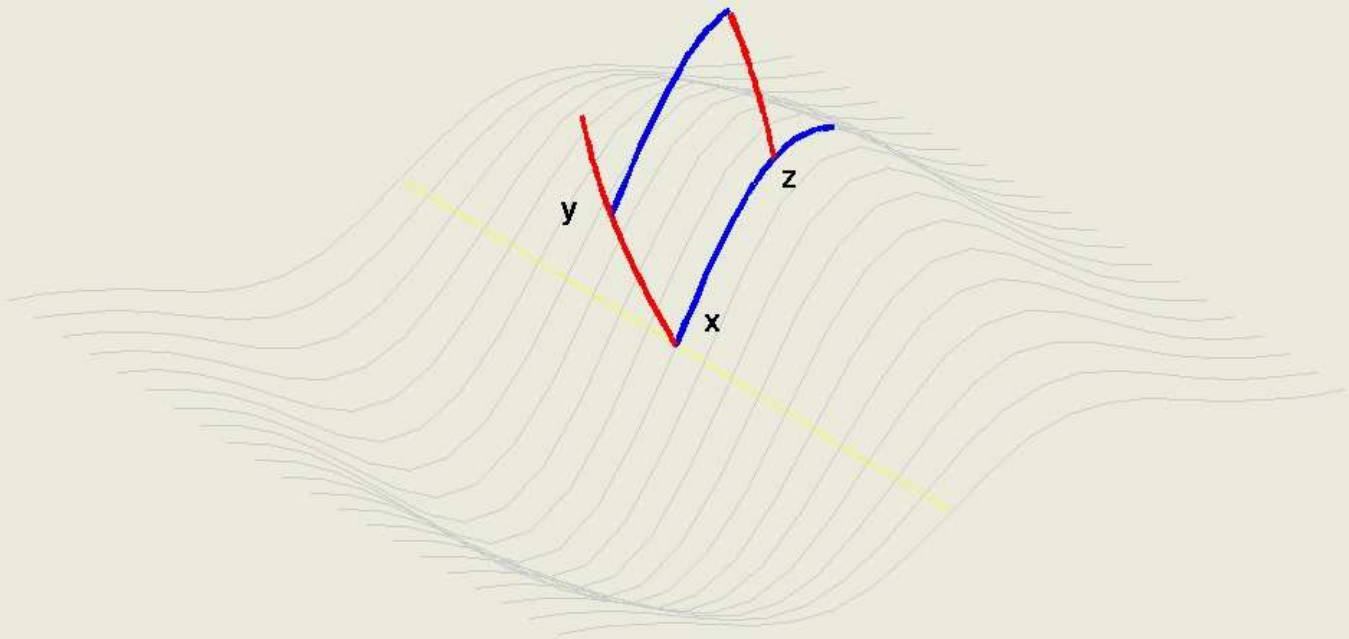
periodic points in $U(f)$

$$x \in Per(f)$$

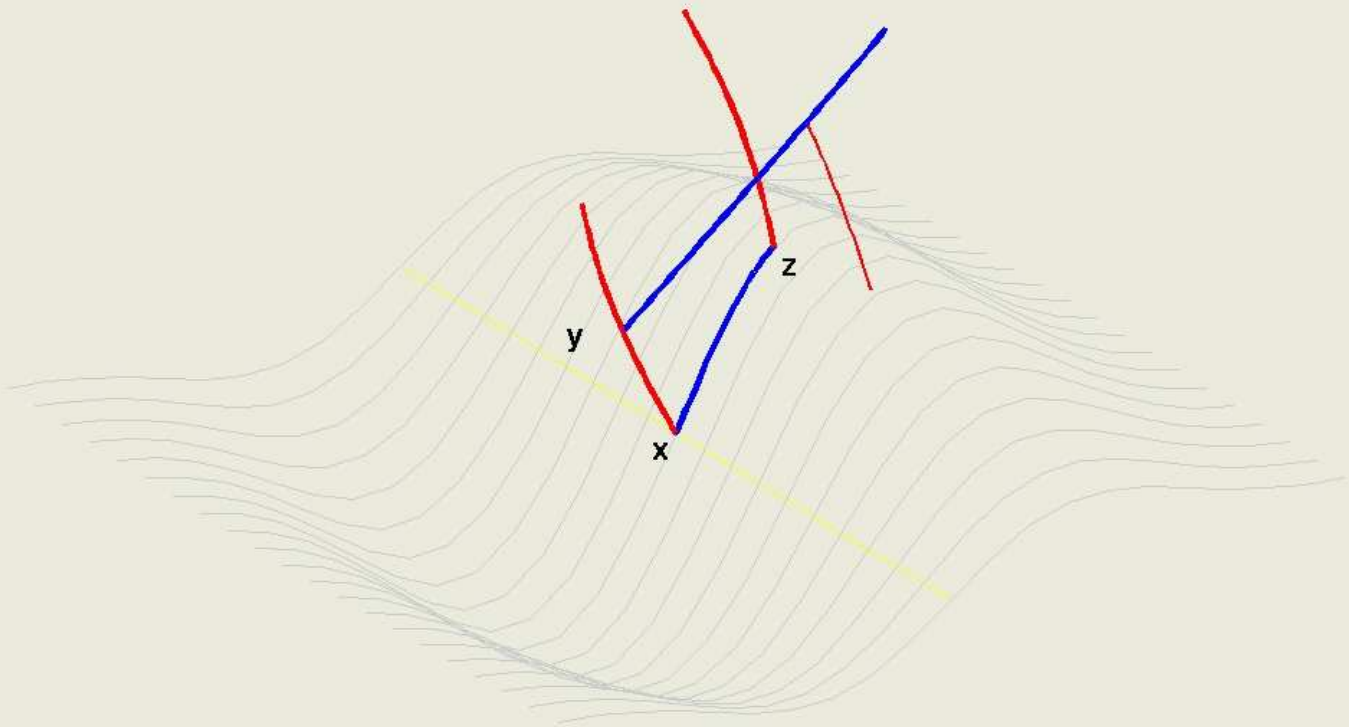
$$\Downarrow$$

$$x \in Per(g) \cap U(g) \qquad g \overset{C^r}{\sim} f$$

periodic points in $U(f)$



periodic points in $U(f)$



generically

C^r-generically:

$$Per(f) \subset U(f)$$

Proposition A.1

PROPOSITION A.1 *C^r densely in $\mathcal{PH}^r_m(M)$, either:*

- *f has the accessibility property or*
- *$E^s \oplus E^u$ is integrable and $\mathcal{P}er(f) = \emptyset$*

Proposition A.2

definitions

accessibility class

the accessibility class of $x \in M$

is the minimal s and u-saturated set containing x.