Proposition A. 2:

The case $E^s \oplus E^u$ integrable with no periodic points

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Call

$$\mathscr{B}(M): \quad E^s \oplus E^u \text{integrable}$$

$$+ \quad Per(f) = \emptyset$$

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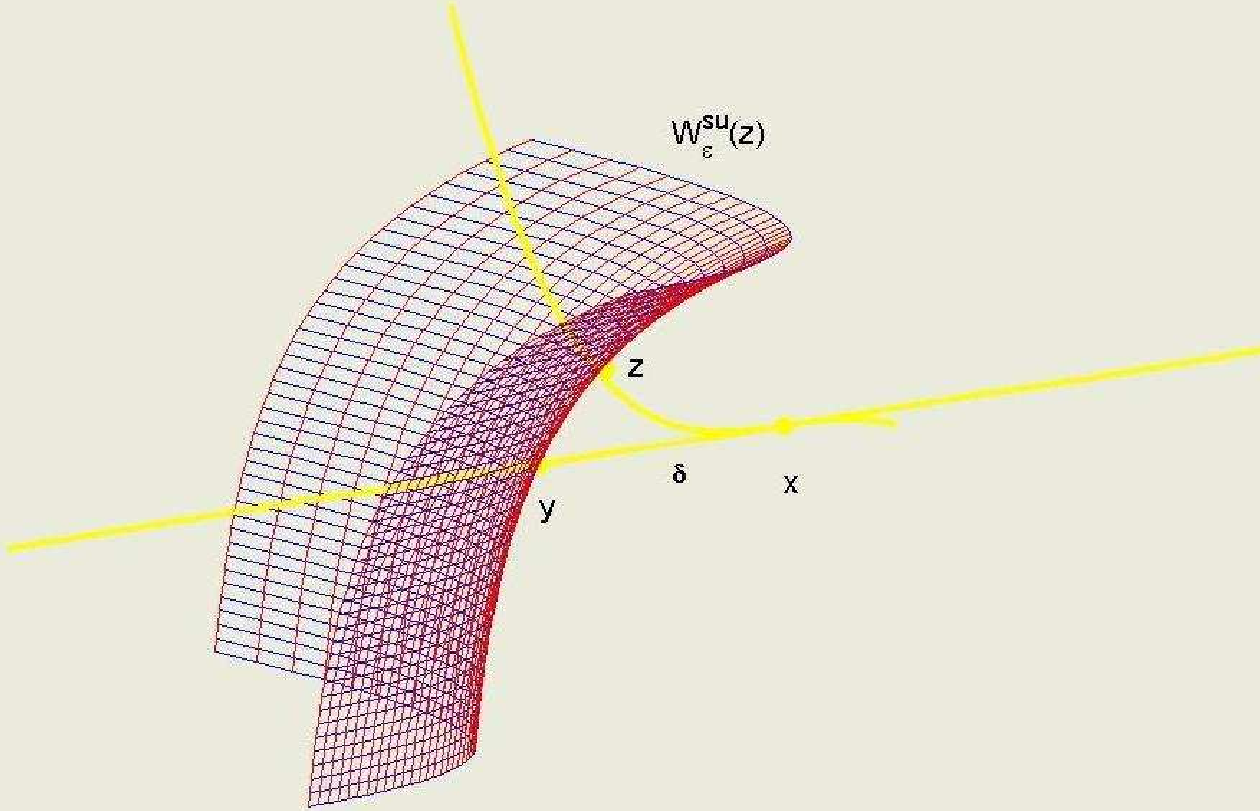
PROPOSITION A.2 $\mathscr{B}(M)$ *is nowhere dense in* $\mathcal{PH}^r_m(M)$

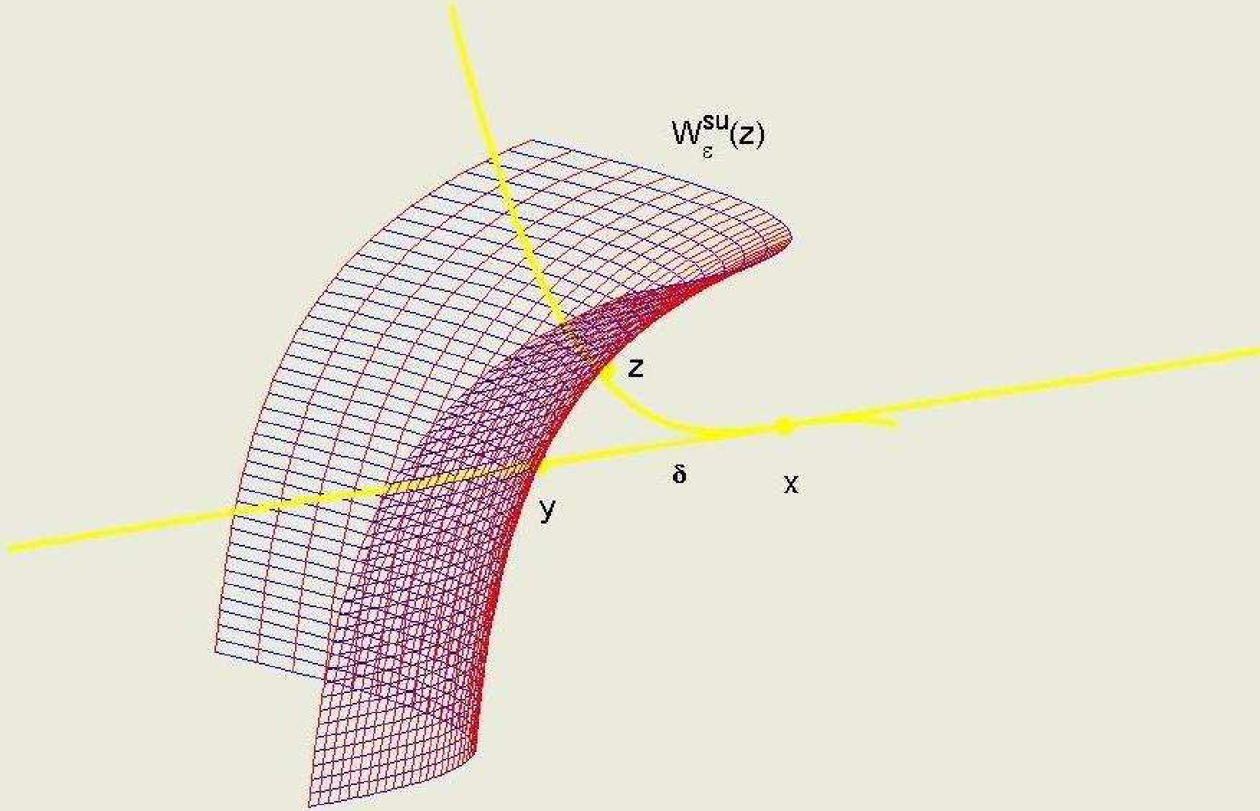
Center integrability in $\mathscr{B}(M)$



$\forall \varepsilon > 0$ there is $\delta > 0$ such that

$$\begin{matrix} z \in W^c_\delta(x) \\ d(x,y) < \delta \end{matrix} \quad \Rightarrow \quad W^c_{loc}(y) \cap \mathcal{W}^{su}_\varepsilon(z) \neq \emptyset$$

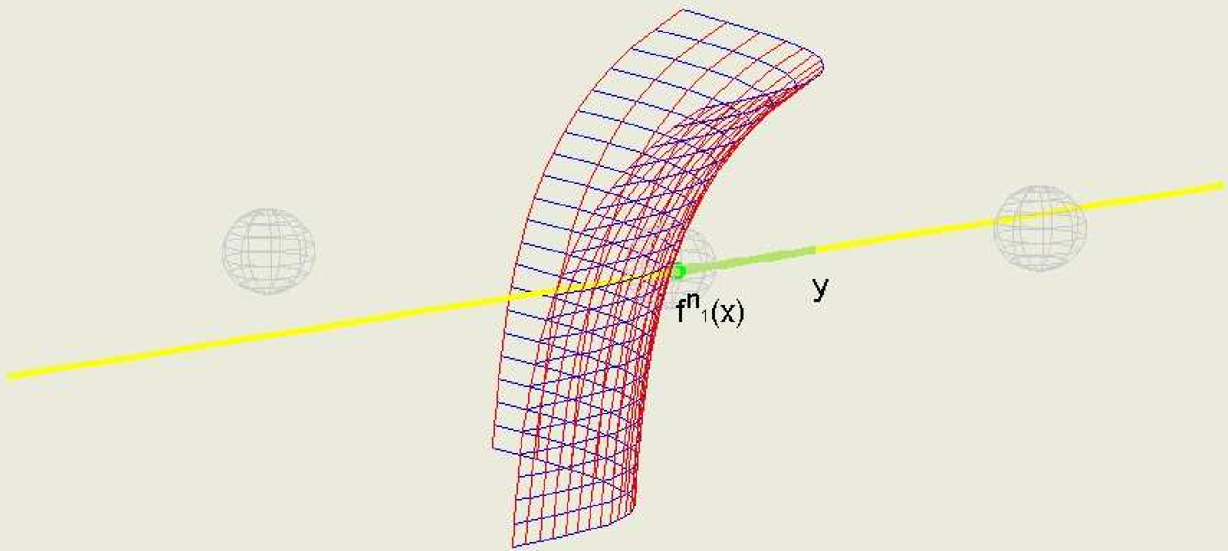
Center integrability in $\mathscr{B}(M)$



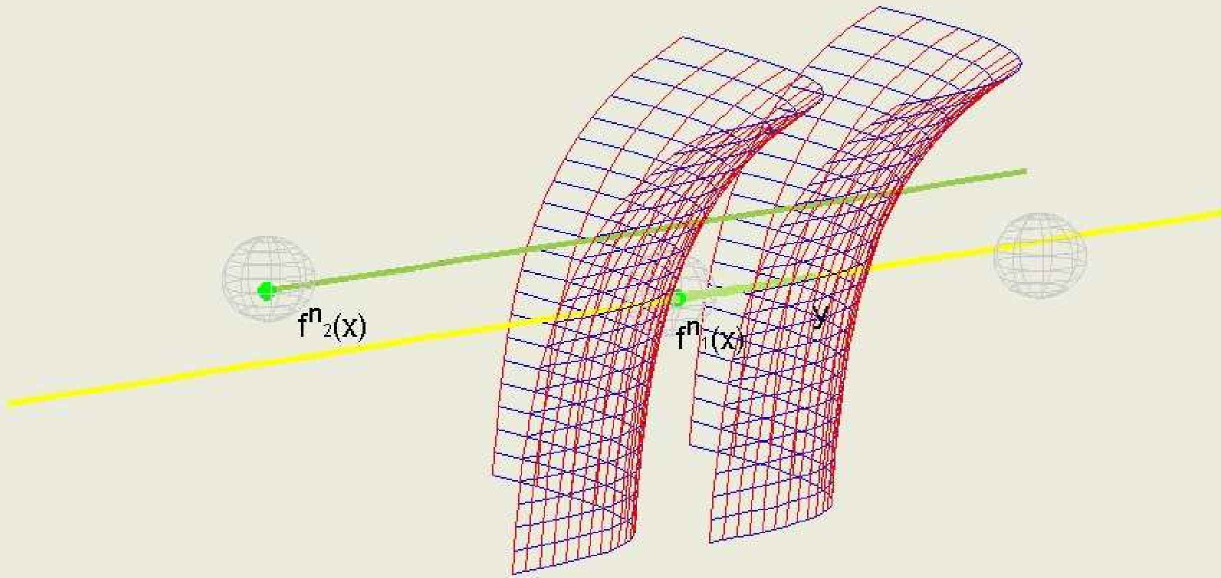
if E^c is not uniquely integrable at x then for all $x \in c \subset W^c_{loc}(x)$ there is $N > 0$ such that

$$f^n(c) \not\subset B_\delta(f^n(x)) \qquad \forall n \geq N$$

Center integrability in $\mathscr{B}(M)$



Center integrability in $\mathscr{B}(M)$



Take $n_2 > 0$ such that

$$f^{n_2-n_1}(c) \not\subset B_\delta(f^{n_2-n_1}(x))$$

Center integrability in $\mathscr{B}(M)$

Hence,

E^c is uniquely integrable in $\mathscr{B}(M)$

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