



$$\tilde{f}(u, v) = \begin{pmatrix} A^+ u + \tilde{\alpha}^+(u, v), \\ A^- v + \tilde{\alpha}^-(u, v) \end{pmatrix}$$

$$\|\tilde{\alpha}^\pm\|_{C^1} < C' \varepsilon \quad \begin{pmatrix} A^+ u, A^- v \\ \tilde{\alpha}^+(u, v), \tilde{\alpha}^-(u, v) \end{pmatrix}$$

let us write: $\hat{f}(u, v) = L(u, v) + R(u, v)$

hyp matrix

$$\Rightarrow L - \mathbb{1} \text{ is invertible!}$$

if z is so that

$$\tilde{f}(z) = z \Rightarrow \text{periodic orbit for } \phi_T,$$

$$T - T' \in (-\varepsilon, \varepsilon)$$

$$\tilde{f}(z) = z = L(z) + R(z)$$

