$$\Rightarrow \quad J_{f_t}(p) = e^{tA} \qquad A_{\mathbb{R}} = \begin{pmatrix} a_{11}, & 0, & a_{21}, & 0 \\ 0, & a_{11}, & 0, & a_{21} \\ a_{12}, & 0 & a_{22}, & 0 \\ 0, & a_{12}, & 0, & a_{22} \end{pmatrix}$$

origin. real

$$\frac{\partial f}{\partial t} = (a_{11} f_1 + a_{21} f_3)\frac{\partial}{\partial x_1} + (a_{11} f_2 + a_{21} f_4)\frac{\partial}{\partial y_1}$$
$$+ (a_{12} f_1 + a_{22} f_3)\frac{\partial}{\partial x_2} + (a_{12} f_2 + a_{22} f_4)\frac{\partial}{\partial y_2}$$
$$= a_{11}(f_1 + \sqrt{-1} f_2)\frac{\partial}{\partial z_1} + a_{21}(f_3 + \sqrt{-1} f_4)\frac{\partial}{\partial z_1} \qquad + [\bar\partial]$$
$$+ a_{12}(f_1 + \sqrt{-1} f_2)\frac{\partial}{\partial z_2} + a_{22}(f_3 + \sqrt{-1} f_4)\frac{\partial}{\partial z_2}.$$
$$= \frac{\partial}{\partial t}\begin{pmatrix} f_1 + \sqrt{-1} f_2 \\ f_3 + \sqrt{-1} f_4 \end{pmatrix}$$
$$\Rightarrow \quad J_{f_t}(0) = e^{t\begin{pmatrix} a_{11}, & a_{21} \\ a_{12}, & a_{22} \end{pmatrix}}.$$

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Now for t small, f_t will have a fixed point exactly where v has a zero, and by the holomorphic Lefschetz fixed-point formula,

$$L(f_t, \mathcal{O}) = \sum_{v(p)=0} \frac{1}{\det(I - B_p)}.$$

Γ See p426

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Since f_t is homotopic to the identity, f_t^* is the ident-