$$\hbar_{\mathbb{R}} \xrightarrow[\underset{\mathbb{R}}{\text{diff}}]{u:v} \mathbb{R}$$

$$^{x+iy}\mathfrak{f} = {}^{x:y}u + i\,{}^{x:y}v$$

$$\frac{\partial\,(u:v)}{\partial\,(x:y)} = \begin{array}{c|c} \dfrac{\partial u}{\partial x} & \dfrac{\partial v}{\partial x} \\ \hline \dfrac{\partial u}{\partial y} & \dfrac{\partial v}{\partial y} \end{array}$$

$$\mathfrak{f}\,\underset{\mathbb{R}}{\text{diff}}\ \text{in } c = a+ib \Leftrightarrow \ulcorner z-c \urcorner \leqslant \delta \curvearrowright \ulcorner {}^{z}\mathfrak{f} - {}^{c}\mathfrak{f} - (z-c)\,\partial_z^c \mathfrak{f} - (z^*-c^*)\,\partial_{z^*}^c \mathfrak{f} \urcorner \leqslant \varepsilon \ulcorner\ulcorner z-c \urcorner\urcorner$$

$$(z-c)\ \partial_z \mathfrak{f} + (z^*-c^*)\ \partial_{z^*}\mathfrak{f} = ((x-a)+i\,(y-b))\ \partial_z \mathfrak{f} + ((x-a)-i\,(y-b))\ \partial_{z^*}\mathfrak{f}$$

$$= (x-a)\left(\partial_z \mathfrak{f} + \partial_{z^*}\mathfrak{f}\right) + i\,(y-b)\left(\partial_z \mathfrak{f} - \partial_{z^*}\mathfrak{f}\right) = (x-a)\,(\partial_x u + i\partial_x v) + (y-b)\left(\partial_y u + i\partial_y v\right)$$

$$\Longrightarrow {}^{z}\mathfrak{f} - {}^{c}\mathfrak{f} - (z-c)\ {}^{c}\partial_z \mathfrak{f} - (z^*-c^*)\ {}^{c}\partial_{z^*}\mathfrak{f}$$

$$= {}^{x:y}u - {}^{a:b}u - (x-a)\ {}^{a:b}\partial_x u - (y-b)\ {}^{a:b}\partial_y u + i\left({}^{x:y}v - {}^{a:b}v - (x-a)\ {}^{a:b}\partial_x v - (y-b)\ {}^{a:b}\partial_y v\right)$$

$$\mathfrak{f}\,\underset{\mathbb{R}}{\text{diff}} \Leftrightarrow u:v\,\underset{\mathbb{R}}{\text{diff}} \Leftrightarrow \ulcorner\ulcorner x-a:y-b \urcorner\urcorner \leqslant \delta \curvearrowright$$

$$\ulcorner {}^{x:y}u - {}^{a:b}u - (x-a)\ {}^{a:b}\partial_x u - (y-b)\ {}^{a:b}\partial_y u \urcorner \leqslant \frac{\varepsilon}{2} \ulcorner\ulcorner x-a:y-b \urcorner\urcorner \geqslant \ulcorner {}^{x:y}v - {}^{a:b}v - (x-a)\ {}^{a:b}\partial_x v - (y-b)\ {}^{a:b}\partial_y v \urcorner$$