

$$\overbrace{\frac{a}{c} \Big| \frac{b}{d}}^z \times \mathfrak{J} = \overbrace{\frac{-1}{a+zc} \underline{b+zd}}^{\mathfrak{J}} \Delta^{a+zc \frac{2}{\Delta} \nu - p}$$

$$\mathfrak{J}_{\nu}^{\times} \mathfrak{J} = \int_{dz}^{\hat{K}_{\mathbb{C}} G_{\mathbb{C}}} \int_{dw}^{\hat{K}_{\mathbb{C}} G_{\mathbb{C}}} z \mathfrak{J}^{1-z\bar{w} \frac{2}{\Delta} - \nu} w \mathfrak{J}$$

$$z \mathfrak{J} = z \mathfrak{J}_{1-z\bar{z} \Delta^{p-\nu}}$$

$$\overbrace{\frac{a}{c} \Big| \frac{b}{d}}^z \times \mathfrak{J} = \overbrace{\frac{-1}{a+zc} \underline{b+zd}}^{\mathfrak{J}}$$

$$1 - \overbrace{\frac{-1}{a+zc} \underline{b+zd}}^* \overbrace{b+zd}^{*-} \overbrace{a+zc}^{-*} = \overbrace{\frac{-1}{a+zc} \underline{a+zc} \underline{a+zc} - \underline{b+zd} \underline{b+zd}}^* \overbrace{a+zc}^{-*} = \overbrace{\frac{-1}{a+zc} \underline{1-z\bar{z}} \underline{a+zc}}^{-*}$$

$$L^2 \left(\hat{K}_{\mathbb{C}} G_{\mathbb{C}} \right) \stackrel{\text{nat}}{\text{def}} \mathcal{L} \left(H_{\nu}^2 \left(\hat{K}_{\mathbb{C}} G_{\mathbb{C}} \right) \right)$$

$$\begin{aligned} \mathfrak{J}_{\nu}^{\times} \mathfrak{J} &= \mathfrak{J}^{\times} \underline{\mathcal{B}_{\nu} \mathfrak{J}} = \int_{dz}^{\hat{K}_{\mathbb{C}} G_{\mathbb{C}}} z \bar{\mathfrak{J}} \overbrace{z \mathcal{B}_{\nu} \mathfrak{J}}^{\mathfrak{J}} = \int_{dz}^{\hat{K}_{\mathbb{C}} G_{\mathbb{C}}} z \bar{\mathfrak{J}} \int_{dw}^{\hat{K}_{\mathbb{C}} G_{\mathbb{C}}} z \mathcal{B}_{\nu}^w w \mathfrak{J} = \int_{dz}^{\hat{K}_{\mathbb{C}} G_{\mathbb{C}}} \int_{dw}^{\hat{K}_{\mathbb{C}} G_{\mathbb{C}}} z \bar{\mathfrak{J}} z \mathcal{B}_{\nu}^w w \mathfrak{J} \\ &= \int_{dz}^{\hat{K}_{\mathbb{C}} G_{\mathbb{C}}} \int_{dw}^{\hat{K}_{\mathbb{C}} G_{\mathbb{C}}} 1 - z\bar{z} \Delta^{\nu-p} 1 - z\bar{w} \frac{2}{\Delta} - 2\nu 1 - w\bar{w} \Delta^{\nu-p} z \bar{\mathfrak{J}} w \mathfrak{J} \end{aligned}$$

positive

$$\{0 \dots r-1\} \cup \underline{r-1} | \infty$$