

$$\begin{aligned}
{}^0 \underline{\overline{e}}_{\lambda}^{\alpha} &= \int_{d\mu_0^{\mathbb{R}}(\zeta)}^{\mathbb{R}\sqrt{\nu}} e_{\lambda}(\zeta) {}^0 \underline{\overline{\zeta}}^{\alpha} = \int_{d\mu_0^{\mathbb{R}}(\zeta)}^{\mathbb{R}\sqrt{\nu}} e_{\lambda}(\zeta) \widehat{\frac{\zeta \Delta_{\zeta}}{\alpha \zeta \Delta_{\zeta}}}^{\alpha} = \frac{\Gamma_{n/2} \Gamma_{\nu - \varrho + \lambda} \Gamma_{\nu - \varrho - \lambda}}{\Gamma_{n/2 + \nu - 2\varrho} \Gamma_{\nu}} {}^{\alpha} \left[\begin{matrix} \nu - \varrho + \lambda | \nu - \varrho - \lambda \\ n/2 + \nu - 2\varrho \end{matrix} \right] \frac{\lambda - \varrho + 2\nu}{1 - \alpha} \\
F(\alpha) &= \frac{\varrho - \lambda - 2\nu}{1 - \alpha} \int_{d\mu_0^{\mathbb{R}}(\zeta)}^{\mathbb{R}\sqrt{\nu}} e_{\lambda}(\zeta) {}^{\zeta} \Delta_{\zeta}^{\nu} {}^{\alpha \zeta} \Delta_{\zeta}^{-\nu} = \frac{\Gamma_{n/2} \Gamma_{\nu - \varrho + \lambda} \Gamma_{\nu - \varrho - \lambda}}{\Gamma_{n/2 + \nu - 2\varrho} \Gamma_{\nu}} {}^{\alpha} \left[\begin{matrix} \nu - \varrho + \lambda | \nu - \varrho - \lambda \\ n/2 + \nu - 2\varrho \end{matrix} \right] \\
&\Rightarrow \alpha \widehat{1 - \alpha} F(\alpha) + (n/2 + \nu - 2\varrho - \alpha(2\nu - 2\varrho + 1)) \underline{F}(\alpha) = (\nu - \varrho + \lambda)(\nu - \varrho - \lambda) F(\alpha) \\
\partial_{\alpha} \left(\widehat{1 - \alpha} \widehat{1 - \alpha x} \right) &= \sigma \widehat{1 - \alpha} \widehat{1 - \alpha x} + \nu \widehat{1 - \alpha} x \widehat{1 - \alpha x} \\
\widehat{\partial}_{\alpha} \left(\widehat{1 - \alpha} \widehat{1 - \alpha x} \right) &= \sigma(\sigma + 1) \widehat{1 - \alpha} \widehat{1 - \alpha x} + 2\sigma\nu \widehat{1 - \alpha} x \widehat{1 - \alpha x} + \nu(\nu + 1) \widehat{1 - \alpha} \widehat{x} \widehat{1 - \alpha x} \\
0 &= \alpha \widehat{1 - \alpha} \left(\sigma(\sigma + 1) \widehat{1 - \alpha} \widehat{1 - \alpha x} + 2\sigma\nu \widehat{1 - \alpha} x \widehat{1 - \alpha x} + \nu(\nu + 1) \widehat{1 - \alpha} \widehat{x} \widehat{1 - \alpha x} \right) \\
&\quad + (A + \alpha B) \left(\sigma \widehat{1 - \alpha} \widehat{1 - \alpha x} + \nu \widehat{1 - \alpha} x \widehat{1 - \alpha x} \right) + C \widehat{1 - \alpha} \widehat{1 - \alpha x} \\
&= \alpha \left(\sigma(\sigma + 1) \widehat{1 - \alpha} \widehat{1 - \alpha x} + 2\sigma\nu \widehat{1 - \alpha} x \widehat{1 - \alpha x} + \nu(\nu + 1) \widehat{1 - \alpha} \widehat{x} \widehat{1 - \alpha x} \right) \\
&\quad + (A + \alpha B) \left(\sigma \widehat{1 - \alpha} \widehat{1 - \alpha x} + \nu \widehat{1 - \alpha} x \widehat{1 - \alpha x} \right) + C \widehat{1 - \alpha} \widehat{1 - \alpha x} \\
&\Rightarrow \text{divide } (1 - \alpha)^{-\sigma - 1} 0 = \alpha \left(\sigma(\sigma + 1) \widehat{1 - \alpha} \widehat{1 - \alpha x} + 2\sigma\nu \widehat{1 - \alpha} x \widehat{1 - \alpha x} + \nu(\nu + 1) \widehat{1 - \alpha} \widehat{x} \widehat{1 - \alpha x} \right) \\
&\quad + (A + \alpha B) \left(\sigma \widehat{1 - \alpha} \widehat{1 - \alpha x} + \nu \widehat{1 - \alpha} x \widehat{1 - \alpha x} \right) + C \widehat{1 - \alpha} \widehat{1 - \alpha x}
\end{aligned}$$