

$$\begin{aligned}
j_{1, out, x, R} - j_{1, inc, x, R} = & -\frac{128 D_0 j_{3, out, x, R}}{5 Deltax DF_{0, x, R}} - \frac{224 D_0 j_{1, inc, x, L}}{25 Deltax DF_{0, x, L}} - \frac{128 D_0 j_{3, inc, x, R}}{5 Deltax DF_{0, x, R}} \\
& - \frac{224 D_0 j_{1, out, x, L}}{25 Deltax DF_{0, x, L}} - \frac{896 D_0 j_{1, out, x, R}}{25 Deltax DF_{0, x, R}} - \frac{32 D_0 j_{3, inc, x, L}}{5 Deltax DF_{0, x, L}} - \frac{32 D_0 j_{3, out, x, L}}{5 Deltax DF_{0, x, L}} \\
& - \frac{896 D_0 j_{1, inc, x, R}}{25 Deltax DF_{0, x, R}} + \frac{20 D_0 \bar{\Phi}_0}{Deltax} + \frac{60 D_0 \bar{\Phi}_{0, x, 1}}{Deltax} + \frac{140 D_0 \bar{\Phi}_{0, x, 2}}{Deltax}
\end{aligned}$$

$$\begin{aligned}
j_{1, out, x, L} - j_{1, inc, x, L} = & \frac{20 D_0 \bar{\Phi}_0}{Deltax} - \frac{60 D_0 \bar{\Phi}_{0, x, 1}}{Deltax} + \frac{140 D_0 \bar{\Phi}_{0, x, 2}}{Deltax} - \frac{896 D_0 j_{1, out, x, L}}{25 Deltax DF_{0, x, L}} \\
& - \frac{128 D_0 j_{3, out, x, L}}{5 Deltax DF_{0, x, L}} - \frac{128 D_0 j_{3, inc, x, L}}{5 Deltax DF_{0, x, L}} - \frac{224 D_0 j_{1, out, x, R}}{25 Deltax DF_{0, x, R}} - \frac{224 D_0 j_{1, inc, x, R}}{25 Deltax DF_{0, x, R}} \\
& - \frac{32 D_0 j_{3, out, x, R}}{5 Deltax DF_{0, x, R}} - \frac{32 D_0 j_{3, inc, x, R}}{5 Deltax DF_{0, x, R}} - \frac{896 D_0 j_{1, inc, x, L}}{25 Deltax DF_{0, x, L}}
\end{aligned}$$

$$\begin{aligned}
j_{3, out, x, R} - j_{3, inc, x, R} = & \frac{1}{Deltax} \left(-D_2 \left(\frac{64}{5 DF_{0, x, R}} + \frac{64}{3 DF_{2, x, R}} \right) j_{3, out, x, R} - D_2 \left(\frac{16}{5 DF_{0, x, L}} \right. \right. \\
& \left. \left. + \frac{16}{3 DF_{2, x, L}} \right) j_{3, out, x, L} - D_2 \left(\frac{64}{5 DF_{0, x, R}} + \frac{64}{3 DF_{2, x, R}} \right) j_{3, inc, x, R} - D_2 \left(\frac{16}{5 DF_{0, x, L}} \right. \right. \\
& \left. \left. + \frac{16}{3 DF_{2, x, L}} \right) j_{3, inc, x, L} - D_2 \left(\frac{448}{25 DF_{0, x, R}} - \frac{64}{5 DF_{2, x, R}} \right) j_{1, out, x, R} - D_2 \left(\frac{112}{25 DF_{0, x, L}} \right. \right. \\
& \left. \left. - \frac{16}{5 DF_{2, x, L}} \right) j_{1, out, x, L} - D_2 \left(\frac{448}{25 DF_{0, x, R}} - \frac{64}{5 DF_{2, x, R}} \right) j_{1, inc, x, R} - D_2 \left(\frac{112}{25 DF_{0, x, L}} \right. \right. \\
& \left. \left. - \frac{16}{5 DF_{2, x, L}} \right) j_{1, inc, x, L} + 20 D_2 \bar{\phi}_2 + 140 D_2 \bar{\phi}_{2, x, 2} + 60 D_2 \bar{\phi}_{2, x, 1} \right)
\end{aligned}$$

$$\begin{aligned}
j_{3, out, x, L} - j_{3, inc, x, L} = & \frac{1}{Deltax} \left(D_2 \left(-\frac{16}{5 DF_{0, x, R}} - \frac{16}{3 DF_{2, x, R}} \right) j_{3, out, x, R} + D_2 \left(-\frac{64}{5 DF_{0, x, L}} \right. \right. \\
& \left. \left. - \frac{64}{3 DF_{2, x, L}} \right) j_{3, out, x, L} + D_2 \left(-\frac{16}{5 DF_{0, x, R}} - \frac{16}{3 DF_{2, x, R}} \right) j_{3, inc, x, R} + D_2 \left(-\frac{64}{5 DF_{0, x, L}} \right. \right. \\
& \left. \left. - \frac{64}{3 DF_{2, x, L}} \right) j_{3, inc, x, L} + D_2 \left(-\frac{112}{25 DF_{0, x, R}} + \frac{16}{5 DF_{2, x, R}} \right) j_{1, out, x, R} + D_2 \left(-\frac{448}{25 DF_{0, x, L}} \right. \right. \\
& \left. \left. + \frac{64}{5 DF_{2, x, L}} \right) j_{1, out, x, L} + D_2 \left(-\frac{112}{25 DF_{0, x, R}} + \frac{16}{5 DF_{2, x, R}} \right) j_{1, inc, x, R} + D_2 \left(-\frac{448}{25 DF_{0, x, L}} \right. \right. \\
& \left. \left. + \frac{64}{5 DF_{2, x, L}} \right) j_{1, inc, x, L} + 20 D_2 \bar{\phi}_2 + 140 D_2 \bar{\phi}_{2, x, 2} - 60 D_2 \bar{\phi}_{2, x, 1} \right)
\end{aligned}$$

$$\begin{aligned}
\bar{\Phi}_0 = & 2 \bar{\phi}_2 + \frac{S_0}{\Sigma_{rem, 0}} - \frac{j_{1, out, x, R}}{\Sigma_{rem, 0} Deltax} + \frac{j_{1, inc, x, R}}{\Sigma_{rem, 0} Deltax} - \frac{j_{1, out, x, L}}{\Sigma_{rem, 0} Deltax} + \frac{j_{1, inc, x, L}}{\Sigma_{rem, 0} Deltax} \\
& - \frac{j_{1, out, y, R}}{\Sigma_{rem, 0} Deltay} + \frac{j_{1, inc, y, R}}{\Sigma_{rem, 0} Deltay} - \frac{j_{1, out, y, L}}{\Sigma_{rem, 0} Deltay} + \frac{j_{1, inc, y, L}}{\Sigma_{rem, 0} Deltay} - \frac{j_{1, out, z, R}}{\Sigma_{rem, 0} Deltaz} \\
& + \frac{j_{1, inc, z, R}}{\Sigma_{rem, 0} Deltaz} - \frac{j_{1, out, z, L}}{\Sigma_{rem, 0} Deltaz} + \frac{j_{1, inc, z, L}}{\Sigma_{rem, 0} Deltaz}
\end{aligned}$$

$$\begin{aligned}
\bar{\Phi}[0, x, 1] = & \frac{8 D_0 j_{3, out, x, L}}{5 \Sigma_{rem, 0} Deltax^2 DF_{0, x, L}} - \frac{8 D_0 j_{3, inc, x, R}}{5 \Sigma_{rem, 0} Deltax^2 DF_{0, x, R}} + \frac{8 D_0 j_{3, inc, x, L}}{5 \Sigma_{rem, 0} Deltax^2 DF_{0, x, L}} \\
& - \frac{\left(\frac{1}{2 Deltax} + \frac{56 D_0}{25 DF_{0, x, R} Deltax^2} \right) j_{1, out, x, R}}{\Sigma_{rem, 0}} \\
& - \frac{\left(-\frac{1}{2 Deltax} - \frac{56 D_0}{25 DF_{0, x, L} Deltax^2} \right) j_{1, out, x, L}}{\Sigma_{rem, 0}} \\
& - \frac{\left(-\frac{1}{2 Deltax} + \frac{56 D_0}{25 DF_{0, x, R} Deltax^2} \right) j_{1, inc, x, R}}{\Sigma_{rem, 0}} \\
& - \frac{\left(\frac{1}{2 Deltax} - \frac{56 D_0}{25 DF_{0, x, L} Deltax^2} \right) j_{1, inc, x, L}}{\Sigma_{rem, 0}} + 2 \bar{\phi}_{2, x, 1} + \frac{S_{0, x, 1}}{\Sigma_{rem, 0}} - \frac{L_{1, xz, 1}}{\Sigma_{rem, 0} Deltaz} \\
& - \frac{L_{1, xy, 1}}{\Sigma_{rem, 0} Deltay} - \frac{8 D_0 j_{3, out, x, R}}{5 \Sigma_{rem, 0} Deltax^2 DF_{0, x, R}} \\
\bar{\Phi}[0, x, 2] = & - \frac{24 D_0 j_{3, out, x, L}}{5 \Sigma_{rem, 0} Deltax^2 DF_{0, x, L}} - \frac{24 D_0 j_{3, inc, x, R}}{5 \Sigma_{rem, 0} Deltax^2 DF_{0, x, R}} - \frac{24 D_0 j_{3, inc, x, L}}{5 \Sigma_{rem, 0} Deltax^2 DF_{0, x, L}} \\
& - \frac{\left(\frac{1}{2 Deltax} + \frac{168 D_0}{25 DF_{0, x, R} Deltax^2} \right) j_{1, out, x, R}}{\Sigma_{rem, 0}} \\
& - \frac{\left(\frac{1}{2 Deltax} + \frac{168 D_0}{25 DF_{0, x, L} Deltax^2} \right) j_{1, out, x, L}}{\Sigma_{rem, 0}} \\
& - \frac{\left(-\frac{1}{2 Deltax} + \frac{168 D_0}{25 DF_{0, x, R} Deltax^2} \right) j_{1, inc, x, R}}{\Sigma_{rem, 0}} \\
& - \frac{\left(-\frac{1}{2 Deltax} + \frac{168 D_0}{25 DF_{0, x, L} Deltax^2} \right) j_{1, inc, x, L}}{\Sigma_{rem, 0}} + 2 \bar{\phi}_{2, x, 2} + \frac{6 D_0 \bar{\Phi}_0}{\Sigma_{rem, 0} Deltax^2} + \frac{S_{0, x, 2}}{\Sigma_{rem, 0}} \\
& - \frac{L_{1, xz, 2}}{\Sigma_{rem, 0} Deltaz} - \frac{L_{1, xy, 2}}{\Sigma_{rem, 0} Deltay} - \frac{24 D_0 j_{3, out, x, R}}{5 \Sigma_{rem, 0} Deltax^2 DF_{0, x, R}}
\end{aligned}$$

$$\begin{aligned}
\bar{\phi}[2] = & \frac{5 j_{3, out, x, R}}{(-5 \alpha + 4 \Sigma_{rem, 0}) Deltax} - \frac{5 j_{3, inc, x, R}}{(-5 \alpha + 4 \Sigma_{rem, 0}) Deltax} + \frac{5 j_{3, out, x, L}}{(-5 \alpha + 4 \Sigma_{rem, 0}) Deltax} \\
& - \frac{5 j_{3, inc, x, L}}{(-5 \alpha + 4 \Sigma_{rem, 0}) Deltax} + \frac{5 j_{3, out, y, R}}{(-5 \alpha + 4 \Sigma_{rem, 0}) Deltay} - \frac{5 j_{3, inc, y, R}}{(-5 \alpha + 4 \Sigma_{rem, 0}) Deltay} \\
& + \frac{5 j_{3, out, y, L}}{(-5 \alpha + 4 \Sigma_{rem, 0}) Deltay} - \frac{5 j_{3, inc, y, L}}{(-5 \alpha + 4 \Sigma_{rem, 0}) Deltay} + \frac{5 j_{3, out, z, R}}{(-5 \alpha + 4 \Sigma_{rem, 0}) Deltaz} \\
& - \frac{5 j_{3, inc, z, R}}{(-5 \alpha + 4 \Sigma_{rem, 0}) Deltaz} + \frac{5 j_{3, out, z, L}}{(-5 \alpha + 4 \Sigma_{rem, 0}) Deltaz} - \frac{5 j_{3, inc, z, L}}{(-5 \alpha + 4 \Sigma_{rem, 0}) Deltaz} \\
& + \frac{2 j_{1, out, x, R}}{(-5 \alpha + 4 \Sigma_{rem, 0}) Deltax} - \frac{2 j_{1, inc, x, R}}{(-5 \alpha + 4 \Sigma_{rem, 0}) Deltax} + \frac{2 j_{1, out, x, L}}{(-5 \alpha + 4 \Sigma_{rem, 0}) Deltax} \\
& - \frac{2 j_{1, inc, x, L}}{(-5 \alpha + 4 \Sigma_{rem, 0}) Deltax} + \frac{2 j_{1, out, y, R}}{(-5 \alpha + 4 \Sigma_{rem, 0}) Deltay} - \frac{2 j_{1, inc, y, R}}{(-5 \alpha + 4 \Sigma_{rem, 0}) Deltay} \\
& + \frac{2 j_{1, out, y, L}}{(-5 \alpha + 4 \Sigma_{rem, 0}) Deltay} - \frac{2 j_{1, inc, y, L}}{(-5 \alpha + 4 \Sigma_{rem, 0}) Deltay} + \frac{2 j_{1, out, z, R}}{(-5 \alpha + 4 \Sigma_{rem, 0}) Deltaz} \\
& - \frac{2 j_{1, inc, z, R}}{(-5 \alpha + 4 \Sigma_{rem, 0}) Deltaz} + \frac{2 j_{1, out, z, L}}{(-5 \alpha + 4 \Sigma_{rem, 0}) Deltaz} - \frac{2 j_{1, inc, z, L}}{(-5 \alpha + 4 \Sigma_{rem, 0}) Deltaz} \\
\bar{\phi}[2, x, 1] = & \frac{\left(\frac{1}{2 Deltax} + \frac{D_2 \left(\frac{4}{5 DF_{0, x, R}} + \frac{4}{3 DF_{2, x, R}} \right)}{Deltax^2} \right) j_{3, out, x, R}}{\alpha} \\
& - \frac{\left(-\frac{1}{2 Deltax} + \frac{D_2 \left(-\frac{4}{5 DF_{0, x, L}} - \frac{4}{3 DF_{2, x, L}} \right)}{Deltax^2} \right) j_{3, out, x, L}}{\alpha} \\
& - \frac{\left(-\frac{1}{2 Deltax} + \frac{D_2 \left(\frac{4}{5 DF_{0, x, R}} + \frac{4}{3 DF_{2, x, R}} \right)}{Deltax^2} \right) j_{3, inc, x, R}}{\alpha} \\
& - \frac{\left(\frac{1}{2 Deltax} + \frac{D_2 \left(-\frac{4}{5 DF_{0, x, L}} - \frac{4}{3 DF_{2, x, L}} \right)}{Deltax^2} \right) j_{3, inc, x, L}}{\alpha} \\
& - \frac{D_2 \left(\frac{28}{25 DF_{0, x, R}} - \frac{4}{5 DF_{2, x, R}} \right) j_{1, out, x, R}}{Deltax^2 \alpha} - \frac{D_2 \left(-\frac{28}{25 DF_{0, x, L}} + \frac{4}{5 DF_{2, x, L}} \right) j_{1, out, x, L}}{Deltax^2 \alpha}
\end{aligned}$$

$$\begin{aligned}
& - \frac{D_2 \left(\frac{28}{25 DF_{0,x,R}} - \frac{4}{5 DF_{2,x,R}} \right) j_{1, inc, x, R}}{Deltax^2 \alpha} - \frac{D_2 \left(-\frac{28}{25 DF_{0,x,L}} + \frac{4}{5 DF_{2,x,L}} \right) j_{1, inc, x, L}}{Deltax^2 \alpha} \\
& + \frac{2 \Sigma_{rem, 0} \bar{\Phi}_{0,x,1}}{5 \alpha} - \frac{2 S_{0,x,1}}{5 \alpha} - \frac{L_{3,xz,1}}{\alpha Deltaz} - \frac{L_{3,xy,1}}{\alpha Deltay} \\
& - \left(\frac{1}{2 Deltax} + \frac{3 D_2 \left(\frac{4}{5 DF_{0,x,R}} + \frac{4}{3 DF_{2,x,R}} \right)}{Deltax^2} \right) j_{3, out, x, R} \\
& - \frac{\alpha}{\alpha} \left(\frac{1}{2 Deltax} + \frac{3 D_2 \left(\frac{4}{5 DF_{0,x,L}} + \frac{4}{3 DF_{2,x,L}} \right)}{Deltax^2} \right) j_{3, out, x, L} \\
& - \left(-\frac{1}{2 Deltax} + \frac{3 D_2 \left(\frac{4}{5 DF_{0,x,R}} + \frac{4}{3 DF_{2,x,R}} \right)}{Deltax^2} \right) j_{3, inc, x, R} \\
& - \left(-\frac{1}{2 Deltax} + \frac{3 D_2 \left(\frac{4}{5 DF_{0,x,L}} + \frac{4}{3 DF_{2,x,L}} \right)}{Deltax^2} \right) j_{3, inc, x, L} \\
& - \frac{\alpha}{\alpha} \frac{3 D_2 \left(\frac{28}{25 DF_{0,x,R}} - \frac{4}{5 DF_{2,x,R}} \right) j_{1, out, x, R}}{Deltax^2 \alpha} - \frac{3 D_2 \left(\frac{28}{25 DF_{0,x,L}} - \frac{4}{5 DF_{2,x,L}} \right) j_{1, out, x, L}}{Deltax^2 \alpha} \\
& - \frac{3 D_2 \left(\frac{28}{25 DF_{0,x,R}} - \frac{4}{5 DF_{2,x,R}} \right) j_{1, inc, x, R}}{Deltax^2 \alpha} - \frac{3 D_2 \left(\frac{28}{25 DF_{0,x,L}} - \frac{4}{5 DF_{2,x,L}} \right) j_{1, inc, x, L}}{Deltax^2 \alpha} \\
& + \frac{6 D_2 \bar{\phi}_2}{\alpha Deltax^2} + \frac{2 \bar{\Phi}_{0,x,2} \Sigma_{rem,0}}{5 \alpha} - \frac{2 S_{0,x,2}}{5 \alpha} - \frac{L_{3,xz,2}}{\alpha Deltaz} - \frac{L_{3,xy,2}}{\alpha Deltay}
\end{aligned}$$