

$\frac{16 \left(\text{Deltax}^2 \Sigma_i \Sigma_{rem,1} - 120 \right)}{15 \text{Deltax}^2 \Sigma_i \Sigma_{rem,1}}$	$-\frac{64}{\text{Deltax}^2 \Sigma_i \Sigma_{rem,1}}$	$-\frac{16 \left(\text{Deltax}^2 \Sigma_i \Sigma_{rem,1} + 120 \right)}{15 \text{Deltax}^2 \Sigma_i \Sigma_{rem,1}}$	$-\frac{64}{\text{Deltax}^2 \Sigma_i \Sigma_{rem,1}}$	0	0	$1 - \frac{672 \Sigma_i + 648 \Sigma_{rem,1}}{7 \text{Deltax}^2 \Sigma_i^2 \Sigma_{rem,1}}$	$-\frac{336 \Sigma_i - 324 \Sigma_{rem,1}}{7 \text{Deltax}^2 \Sigma_i^2 \Sigma_{rem,1}}$	$\frac{144}{\text{Deltax}^2 \Sigma_i \Sigma_{rem,1}}$	$\frac{672}{\text{Deltax}^2 \Sigma_i \Sigma_{rem,1}}$	$\frac{1944}{7 \text{Deltax}^2 \Sigma_i^3}$	$\frac{1296}{\text{Deltax}^2 \Sigma_i^2}$
$-\frac{64}{\text{Deltax}^2 \Sigma_i \Sigma_{rem,1}}$	$\frac{16 \left(\text{Deltax}^2 \Sigma_i \Sigma_{rem,1} - 120 \right)}{15 \text{Deltax}^2 \Sigma_i \Sigma_{rem,1}}$	$-\frac{64}{\text{Deltax}^2 \Sigma_i \Sigma_{rem,1}}$	$-\frac{16 \left(\text{Deltax}^2 \Sigma_i \Sigma_{rem,1} + 120 \right)}{15 \text{Deltax}^2 \Sigma_i \Sigma_{rem,1}}$	0	0	$\frac{-336 \Sigma_i - 324 \Sigma_{rem,1}}{7 \text{Deltax}^2 \Sigma_i^2 \Sigma_{rem,1}}$	$1 - \frac{672 \Sigma_i + 648 \Sigma_{rem,1}}{7 \text{Deltax}^2 \Sigma_i^2 \Sigma_{rem,1}}$	$-\frac{144}{\text{Deltax}^2 \Sigma_i \Sigma_{rem,1}}$	$\frac{672}{\text{Deltax}^2 \Sigma_i \Sigma_{rem,1}}$	$-\frac{1944}{7 \text{Deltax}^2 \Sigma_i^3}$	$\frac{1296}{\text{Deltax}^2 \Sigma_i^2}$
$-\frac{2 \left(7 \text{Deltax}^3 \Sigma_i^2 \Sigma_{rem,1} - 1920 \right)}{35 \text{Deltax}^3 \Sigma_i^2 \Sigma_{rem,1}}$	$\frac{576}{7 \text{Deltax}^3 \Sigma_i^2 \Sigma_{rem,1}}$	$1 + \frac{768}{7 \text{Deltax}^3 \Sigma_i^2 \Sigma_{rem,1}}$	$\frac{576}{7 \text{Deltax}^3 \Sigma_i^2 \Sigma_{rem,1}}$	0	0	$\frac{1008 \text{Deltax}^2 \Sigma_i^2 \Sigma_{rem,1} + 20160 \Sigma_i + 19440 \Sigma_{rem,1}}{245 \text{Deltax}^3 \Sigma_i^3 \Sigma_{rem,1}}$	$\frac{252 \text{Deltax}^2 \Sigma_i^2 \Sigma_{rem,1} + 15120 \Sigma_i + 14580 \Sigma_{rem,1}}{245 \text{Deltax}^3 \Sigma_i^3 \Sigma_{rem,1}}$	$\frac{432}{7 \text{Deltax}^3 \Sigma_i^3 \Sigma_{rem,1}}$	$-\frac{720}{\text{Deltax}^3 \Sigma_i^2 \Sigma_{rem,1}}$	$-\frac{108 \left(7 \text{Deltax}^2 \Sigma_i^2 + 54 \right)}{49 \text{Deltax}^3 \Sigma_i^3}$	$-\frac{36 \left(7 \text{Deltax}^2 \Sigma_i^2 + 270 \right)}{7 \text{Deltax}^3 \Sigma_i^3}$
$\frac{576}{7 \text{Deltax}^3 \Sigma_i^2 \Sigma_{rem,1}}$	$\frac{2 \left(7 \text{Deltax}^3 \Sigma_i^2 \Sigma_{rem,1} + 1920 \right)}{35 \text{Deltax}^3 \Sigma_i^2 \Sigma_{rem,1}}$	$\frac{576}{7 \text{Deltax}^3 \Sigma_i^2 \Sigma_{rem,1}}$	$1 + \frac{768}{7 \text{Deltax}^3 \Sigma_i^2 \Sigma_{rem,1}}$	0	0	$\frac{252 \text{Deltax}^2 \Sigma_i^2 \Sigma_{rem,1} + 15120 \Sigma_i + 14580 \Sigma_{rem,1}}{245 \text{Deltax}^3 \Sigma_i^2 \Sigma_{rem,1}}$	$\frac{1008 \text{Deltax}^2 \Sigma_i^2 \Sigma_{rem,1} + 20160 \Sigma_i + 19440 \Sigma_{rem,1}}{245 \text{Deltax}^3 \Sigma_i^2 \Sigma_{rem,1}}$	$\frac{432}{7 \text{Deltax}^3 \Sigma_i^2 \Sigma_{rem,1}}$	$-\frac{720}{\text{Deltax}^3 \Sigma_i^2 \Sigma_{rem,1}}$	$\frac{108 \left(7 \text{Deltax}^2 \Sigma_i^2 + 54 \right)}{49 \text{Deltax}^3 \Sigma_i^2}$	$-\frac{36 \left(7 \text{Deltax}^2 \Sigma_i^2 + 270 \right)}{7 \text{Deltax}^3 \Sigma_i^2}$
$1 + \frac{128 \text{D}_0}{3 \text{Deltax}}$	$\frac{32 \text{D}_0}{3 \text{Deltax}}$	$\frac{128 \text{D}_0}{3 \text{Deltax}}$	$\frac{32 \text{D}_0}{3 \text{Deltax}}$	0	0	$\frac{32 \text{D}_0}{3 \text{Deltax}}$	$\frac{8 \text{D}_0}{3 \text{Deltax}}$	$\frac{60 \text{D}_0}{\text{Deltax}}$	$-\frac{140 \text{D}_0}{\text{Deltax}}$	0	0
$\frac{32 \text{D}_0}{3 \text{Deltax}}$	$1 + \frac{128 \text{D}_0}{3 \text{Deltax}}$	$\frac{32 \text{D}_0}{3 \text{Deltax}}$	$\frac{32 \text{D}_0}{3 \text{Deltax}}$	0	0	$\frac{8 \text{D}_0}{3 \text{Deltax}}$	$\frac{32 \text{D}_0}{\text{Deltax}}$	$\frac{60 \text{D}_0}{\text{Deltax}}$	$-\frac{140 \text{D}_0}{\text{Deltax}}$	0	0
0	0	0	0	1	0	$\frac{16 \text{D}_2}{\text{Deltax}}$	$\frac{4 \text{D}_2}{\text{Deltax}}$	0	0	$-\frac{60 \text{D}_2}{\text{Deltax}}$	$-\frac{140 \text{D}_2}{\text{Deltax}}$
0	0	0	0	0	1	$\frac{4 \text{D}_2}{\text{Deltax}}$	$\frac{16 \text{D}_2}{\text{Deltax}}$	0	0	$\frac{60 \text{D}_2}{\text{Deltax}}$	$-\frac{140 \text{D}_2}{\text{Deltax}}$

[illegible]

[illegible]

$$\begin{array}{rcl}
\frac{72}{\Delta \ell a^2 \Sigma_i \Sigma_{rem,1}} & & \frac{972}{7 \Delta \ell a^2 \Sigma_i^2} \\
\frac{72}{\Delta \ell a^2 \Sigma_i \Sigma_{rem,1}} & & \frac{972}{7 \Delta \ell a^2 \Sigma_i^2} \\
-\frac{72}{\Delta \ell a^2 \Sigma_i^2 \Sigma_{rem,1}} & & -\frac{36 \left(\Delta \ell a^2 \Sigma_i^2 + 27 \right)}{7 \Delta \ell a^2 \Sigma_i^3} \\
-\frac{72}{\Delta \ell a^2 \Sigma_i^2 \Sigma_{rem,1}} & & -\frac{36 \left(\Delta \ell a^2 \Sigma_i^2 + 27 \right)}{7 \Delta \ell a^2 \Sigma_i^3} \\
-\frac{20 D_0}{\Delta \ell a^2 \Sigma_i} & & 0 \\
-\frac{20 D_0}{\Delta \ell a^2 \Sigma_i} & & 0 \\
0 & & -\frac{20 D_2}{\Delta \ell a^2 \Sigma_i} \\
0 & & -\frac{20 D_2}{\Delta \ell a^2 \Sigma_i}
\end{array}$$

$\frac{3 \text{ Delatx} + 16 \text{ D}_0}{6 \Sigma_{rem,0} \text{ Delatx}^2}$	$\frac{-3 \text{ Delatx} - 16 \text{ D}_0}{6 \Sigma_{rem,0} \text{ Delatx}^2}$	$\frac{8 \text{ D}_0}{3 \Sigma_{rem,0} \text{ Delatx}^2}$	$-\frac{8 \text{ D}_0}{3 \Sigma_{rem,0} \text{ Delatx}^2}$	0	0	$\frac{2 \text{ D}_0}{\Sigma_{rem,0} \text{ Delatx}^2}$	$-\frac{2 \text{ D}_0}{\Sigma_{rem,0} \text{ Delatx}^2}$	1	0	-2	0	
$\frac{\text{Delatx} + 16 \text{ D}_0}{2 \Sigma_{rem,0} \text{ Delatx}^2}$	$\frac{\text{Delatx} + 16 \text{ D}_0}{2 \Sigma_{rem,0} \text{ Delatx}^2}$	$\frac{8 \text{ D}_0}{\Sigma_{rem,0} \text{ Delatx}^2}$	$\frac{8 \text{ D}_0}{\Sigma_{rem,0} \text{ Delatx}^2}$	0	0	$\frac{6 \text{ D}_0}{\Sigma_{rem,0} \text{ Delatx}^2}$	$\frac{6 \text{ D}_0}{\Sigma_{rem,0} \text{ Delatx}^2}$	0	1	0	-2	
0	0	0	0	$\frac{1}{2 \alpha \text{ Delatx}}$	$-\frac{1}{2 \alpha \text{ Delatx}}$	$\frac{\text{D}_2}{\alpha \text{ Delatx}^2}$	$-\frac{\text{D}_2}{\alpha \text{ Delatx}^2}$	$-\frac{2 \Sigma_{rem,0}}{5 \alpha}$	0	0	1	0
0	0	0	0	$\frac{1}{2 \alpha \text{ Delatx}}$	$\frac{1}{2 \alpha \text{ Delatx}}$	$\frac{3 \text{ D}_2}{\alpha \text{ Delatx}^2}$	$\frac{3 \text{ D}_2}{\alpha \text{ Delatx}^2}$	0	$-\frac{2 \Sigma_{rem,0}}{5 \alpha}$	0	0	1
$\frac{2}{\text{Delatx} (5 \alpha - 4 \Sigma_{rem,0})}$	$\frac{2}{\text{Delatx} (5 \alpha - 4 \Sigma_{rem,0})}$	0	0	$\frac{5}{\text{Delatx} (5 \alpha - 4 \Sigma_{rem,0})}$	$\frac{5}{\text{Delatx} (5 \alpha - 4 \Sigma_{rem,0})}$	0	0	0	0	0	0	0
$\frac{5 \alpha}{\text{Delatx} (5 \alpha - 4 \Sigma_{rem,0}) \Sigma_{rem,0}}$	$\frac{5 \alpha}{\text{Delatx} (5 \alpha - 4 \Sigma_{rem,0}) \Sigma_{rem,0}}$	0	0	$\frac{10}{\text{Delatx} (5 \alpha - 4 \Sigma_{rem,0})}$	$\frac{10}{\text{Delatx} (5 \alpha - 4 \Sigma_{rem,0})}$	0	0	0	0	0	0	0

[illegible]

0	0	0 0	0	0	0 0 0 0 0 0
0	0	0 0	0	0	0 0 0 0 0 0
0	0	0 0	0	0	0 0 0 0 0 0
0	0	0 0	0	0	0 0 0 0 0 0
$\frac{2}{\text{Deltaz} \left(5 \alpha - 4 \Sigma_{rem, 0} \right)}$	$\frac{2}{\text{Deltaz} \left(5 \alpha - 4 \Sigma_{rem, 0} \right)}$	0 0	$\frac{5}{\text{Deltaz} \left(5 \alpha - 4 \Sigma_{rem, 0} \right)}$	$\frac{5}{\text{Deltaz} \left(5 \alpha - 4 \Sigma_{rem, 0} \right)}$	0 0 0 0 0 0
$\frac{5 \alpha}{\text{Deltaz} \left(5 \alpha - 4 \Sigma_{rem, 0} \right) \Sigma_{rem, 0}}$	$\frac{5 \alpha}{\text{Deltaz} \left(5 \alpha - 4 \Sigma_{rem, 0} \right) \Sigma_{rem, 0}}$	0 0	$\frac{10}{\text{Deltaz} \left(5 \alpha - 4 \Sigma_{rem, 0} \right)}$	$\frac{10}{\text{Deltaz} \left(5 \alpha - 4 \Sigma_{rem, 0} \right)}$	0 0 0 0 0 0

$$\begin{bmatrix} 0 & 0 \\ \frac{6 D_0}{\Sigma_{rem,0} \Delta t x^2} & 0 \\ 0 & 0 \\ 0 & -\frac{6 D_2}{\alpha \Delta t x^2} \\ 0 & 1 \\ 1 & 0 \end{bmatrix}$$