

with(Physics) :

$g_{u,v}[[27, 27, 1]];$

$$\begin{aligned}
g_{u,v} = & \left[\left[-2 H(X), -1, \frac{1}{\rho(u, z, zb)} \left(-2 H(X) L(u, z, zb) \rho(u, z, zb) + L(u, z, zb) \left(\frac{\partial}{\partial u} \right. \right. \right. \right. \\
& \left. \left. \left. r0(u, z, zb) \right) \rho(u, z, zb) - \left(\frac{\partial}{\partial z} r0(u, z, zb) \right) \rho(u, z, zb) - \frac{\partial}{\partial u} L(u, z, zb) \right), \right. \\
& \left. -2 H(X) Lb(u, z, zb) - Wb(u, z, zb) \right], \\
& \left[-1, 0, -L(u, z, zb), -Lb(u, z, zb) \right], \\
& \left[\frac{1}{\rho(u, z, zb)} \left(-2 H(X) L(u, z, zb) \rho(u, z, zb) + L(u, z, zb) \left(\frac{\partial}{\partial u} r0(u, z, zb) \right) \rho(u, z, \right. \right. \\
& \left. \left. zb) - \left(\frac{\partial}{\partial z} r0(u, z, zb) \right) \rho(u, z, zb) - \frac{\partial}{\partial u} L(u, z, zb) \right), -L(u, z, zb), \right. \\
& \left. \frac{1}{\rho(u, z, zb)} \left(2 L(u, z, zb) \left(-\frac{\partial}{\partial u} L(u, z, zb) + \rho(u, z, zb) \left(-\frac{\partial}{\partial z} r0(u, z, zb) + L(u, z, \right. \right. \right. \right. \right. \\
& \left. \left. \left. zb) \left(\frac{\partial}{\partial u} r0(u, z, zb) - H(X) \right) \right) \right) \right), \frac{1}{rho_b(u, z, zb) \rho(u, z, zb) P(u, z, zb)^2} \left(\right. \\
& \left. -2 H(X) Lb(u, z, zb) L(u, z, zb) rho_b(u, z, zb) \rho(u, z, zb) P(u, z, zb)^2 + Lb(u, z, zb) L(u, \right. \\
& \left. z, zb) \left(\frac{\partial}{\partial u} r0(u, z, zb) \right) rho_b(u, z, zb) \rho(u, z, zb) P(u, z, zb)^2 - L(u, z, zb) Wb(u, z, \right. \\
& \left. zb) rho_b(u, z, zb) \rho(u, z, zb) P(u, z, zb)^2 - Lb(u, z, zb) \left(\frac{\partial}{\partial z} r0(u, z, zb) \right) rho_b(u, z, \right. \\
& \left. zb) \rho(u, z, zb) P(u, z, zb)^2 - Lb(u, z, zb) \left(\frac{\partial}{\partial u} L(u, z, zb) \right) rho_b(u, z, zb) P(u, z, zb)^2 \right. \\
& \left. + 1 \right) \right], \\
& \left[-2 H(X) Lb(u, z, zb) - Wb(u, z, zb), -Lb(u, z, zb), \right. \\
& \left. \frac{1}{rho_b(u, z, zb) \rho(u, z, zb) P(u, z, zb)^2} \left(-2 H(X) Lb(u, z, zb) L(u, z, zb) rho_b(u, z, \right. \right. \\
& \left. \left. zb) \rho(u, z, zb) P(u, z, zb)^2 + Lb(u, z, zb) L(u, z, zb) \left(\frac{\partial}{\partial u} r0(u, z, zb) \right) rho_b(u, z, zb) \rho(u, \right. \right. \\
& \left. \left. z, zb) P(u, z, zb)^2 - L(u, z, zb) Wb(u, z, zb) rho_b(u, z, zb) \rho(u, z, zb) P(u, z, zb)^2 - Lb(u, \right. \right.
\end{aligned} \tag{1}$$

$$\begin{aligned}
& z, zb) \left(\frac{\partial}{\partial z} r\theta(u, z, zb) \right) rho_b(u, z, zb) \rho(u, z, zb) P(u, z, zb)^2 - Lb(u, z, zb) \left(\frac{\partial}{\partial u} L(u, z, \right. \\
& \left. zb) \right) rho_b(u, z, zb) P(u, z, zb)^2 + 1 \Big), -2 Lb(u, z, zb) (H(X) Lb(u, z, zb) + Wb(u, z, zb)) \\
& \Big]
\end{aligned}$$