$$
\begin{aligned}
x_2 &= x_1 - \Delta x_{fr} \frac{p_1 - p_0}{p_1} \,, \\
p_{y2} &= p_{y1} + y_1 \frac{\Delta y_{fr} - \Delta y_{fra} y_1^2}{p_1^2} \,, \\
z_2 &= z_1 + \frac{-\Delta x_{fr} p_{x1} + (\Delta y_{fr} - \Delta y_{fra} y_1^2/2) y_1^2/(2p_1)}{p_1} - \Delta z_{fr} \,, \\
\text{where } \Delta z_{fr} &\equiv \Delta x_{fr} \left(\sin(\texttt{ANGLE E1} + \texttt{AE1}) + \sin(\texttt{ANGLE E2} + \texttt{AE2}) \right) \,.
\end{aligned}
$$