

$$\Rightarrow \begin{array}{ccc} S^*|_{U_{12}} & \longrightarrow & U_{12} \times \mathbb{C}^2 \\ \downarrow \tau & \nearrow \tau_1 & \\ U_{12} & & \end{array}$$

$$\Rightarrow \begin{array}{ccc} \tau_1: U_{12} & \longrightarrow & U_{12} \times \mathbb{C}^2 \\ \downarrow & \nearrow & \\ \mathbb{C}^4 & & \begin{pmatrix} a + bz_1 + cz_2 \\ d + bz_3 + cz_4 \end{pmatrix} \end{array}$$

(z_1, z_2, z_3, z_4)

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Assume that

$$\begin{aligned} f_1 &= a_0 + a_1 z_1 + a_2 z_2 + a_3 z_3 + a_4 z_4 \\ f_2 &= b_0 + b_1 z_1 + b_2 z_2 + b_3 z_3 + b_4 z_4 \\ g_1 &= c_0 + c_1 w_1 + c_2 w_2 + c_3 w_3 + c_4 w_4 \\ g_2 &= d_0 + d_1 w_1 + d_2 w_2 + d_3 w_3 + d_4 w_4 \end{aligned}$$

$$\Rightarrow f_1 - \frac{z_1}{z_3} f_2 = g_1 \quad \frac{1}{z_3} f_2 = g_2$$

$$\begin{aligned} \Rightarrow a_0 + a_1 z_1 + a_2 z_2 + a_3 z_3 + a_4 z_4 - \frac{z_1}{z_3} (b_0 + b_1 z_1 + b_2 z_2 + b_3 z_3 + b_4 z_4) \\ = c_0 + c_1 \left(-\frac{z_1}{z_3}\right) + c_2 \left(z_2 - \frac{z_1 z_4}{z_3}\right) + c_3 \frac{1}{z_3} + c_4 \frac{z_4}{z_3} \end{aligned}$$

$$\Rightarrow \begin{aligned} a_0 &= c_0 & a_1 &= b_3 & a_2 &= c_2 = b_4 & a_3 &= 0 \\ a_4 &= 0 & c_1 &= b_0 & c_3 &= 0 & c_4 &= 0 & b_1 &= 0 = b_2 \end{aligned}$$

$$\Rightarrow \begin{aligned} f_1 &= a_0 + a_1 z_1 + a_2 z_2 \\ g_1 &= a_0 + a_2 w_2 + b_0 w_1 \end{aligned}$$

$$\frac{1}{z_3} (b_0 + b_1 z_1 + b_2 z_2 + b_3 z_3 + b_4 z_4) = b_0 \frac{1}{z_3} + b_1 \frac{z_1}{z_3}$$