

$$\left(\frac{1}{2} (\lambda_{11} \lambda_{12}^2 - \lambda_{12}^2 \lambda_{22}) d_2^2 + \frac{1}{2} (\lambda_{11} \lambda_{12}^2 + \lambda_{22} \lambda_{11}^2) d_2^2 \right) d_1 d_2$$

$$+ (\lambda_{11} \lambda_{22} \lambda_{12} - \lambda_{12}^3) d_1 d_2$$

$$+ \frac{1}{2} \lambda_{22} \lambda_{12}^2 d_1^2 + \frac{1}{2} \lambda_{22} \lambda_{12}^2 d_1^2$$

$$+ \frac{1}{2} (\lambda_{22} \lambda_{12}^2 - \lambda_{11} \lambda_{22}^2) d_1^2$$

$$\lambda_{22} (\lambda_{12}^2 - \lambda_{11} \lambda_{22})$$

$$= \frac{1}{2} (\lambda_{11} \lambda_{22} - \lambda_{12}^2)$$

$$\times (-\lambda_{11} d_2^2 - \lambda_{22} d_1^2 + \lambda_{12} d_1 d_2)$$