$$E = \frac{1}{\sigma\_N^2} E\_I + \sum_{j>1} \frac{\alpha_j^2}{\sigma\_S_j^2} + \sum_{j>1} \frac{\beta_j^2}{\sigma\_T_j^2} + \sum_j \frac{\left(\rho_j - \bar{\rho}_j\right)^2}{\sigma\_\rho_j^2}$$

where

$$\sigma\_N \in \mathbb{R}$$

$$E\_I \in \mathbb{R}$$

$$\alpha_i \in \mathbb{R}$$

$$\beta_i \in \mathbb{R}$$

$$\sigma\_S_i \in \mathbb{R}$$

$$\sigma\_T_i \in \mathbb{R}$$

$$\rho_i \in \mathbb{R}$$

$$\bar{\rho}_i \in \mathbb{R}$$

$$\sigma\_\rho_i \in \mathbb{R}$$

$$\bar{a}_i \in \mathbb{R}$$