$$\mathcal{H}x = [\mathrm{D}z(x)]^{\top} \mathcal{H}z [\mathrm{D}z(x)] + \sum_{k} [\mathrm{H}z_{k}(x)] \delta z_{k}$$

$$\mathcal{H}\theta = [\mathrm{D}z(\theta)]^{\top} \mathcal{H}z [\mathrm{D}z(\theta)] + \sum_{k} [\mathrm{H}z_{k}(\theta)] \delta z_{k}$$