$$\boldsymbol{\sigma}_{i} = \frac{1}{\Omega_{i}} \left( \frac{1}{2} \sum_{j} \boldsymbol{F}_{ij} \otimes \boldsymbol{r}_{ij} + m \boldsymbol{v}_{i} \otimes \boldsymbol{v}_{i} \right)$$