

$$\mathbf{H}_{sr}^{asymm} = \frac{1}{2} \sum_{\alpha} \boldsymbol{\varepsilon}_{\alpha\alpha} \{ \mathbf{N}_{\alpha}, \mathbf{S}_{\alpha} \} + \Delta_{NK}^S (\mathbf{N} \cdot \mathbf{S}) \mathbf{N}^2 \mathbf{N}_z^2$$