

$$\mathbb{L}_{\infty} \cup_n \mathbb{R}^n \ni \mathcal{H}_m$$



$$\mathbb{L}_{\infty} \mathbb{L}_{\infty} \mathbb{E}_n \mathbb{R}^n \ni \bar{\mathcal{H}}_{\ell}^n$$

$${}_{m_{\ell}} \bar{\mathcal{H}}^n = \left(\bar{\mathcal{H}}^n \right)_m$$

$$2 \underbrace{{}_{m_{\ell}} \bar{\mathcal{H}}^n}_{nk} \mathcal{H} = \alpha_{\ell} \bar{\mathcal{H}}_{mk} + \beta_{m} \bar{\mathcal{H}}_{\ell k} + \gamma_k \bar{\mathcal{H}}_{\ell m} + \lambda_{\ell} \bar{\mathcal{H}}_{m} | \bar{\mathcal{H}}^n_{nk} + \mu_k \bar{\mathcal{H}}_{m} | \bar{\mathcal{H}}^n_{nl} + \nu_k \bar{\mathcal{H}}_{\ell} | \bar{\mathcal{H}}^n_{nm}$$

$$\mathcal{L}^j \bar{\mathcal{H}}^i = \bar{\mathcal{L}}^i$$

$$\bar{\mathcal{L}}^i - \mathcal{L}^j \bar{\mathcal{H}}^i \overset{\text{tors}}{\underset{\text{free}}{=}} 0$$

$$2 \bar{\mathcal{H}}_{q\ell} \mathcal{L}^j \bar{\mathcal{H}}^i_{il} = 2 \bar{\mathcal{H}}_{p\ell} \mathcal{L}^j \bar{\mathcal{H}}^i_{il} - 2 \bar{\mathcal{H}}_{q\ell} \mathcal{L}^j \bar{\mathcal{H}}^i_{il}$$

$$= 2 \bar{\mathcal{H}}_{q\ell} \bar{\mathcal{H}}^i_{il} - 2 \bar{\mathcal{H}}_{p\ell} \bar{\mathcal{H}}^i_{il} = 2 \bar{\mathcal{H}}_{qp} \bar{\mathcal{H}}^i_{il} - 2 \bar{\mathcal{H}}_{pq} \bar{\mathcal{H}}^i_{il} =$$

$$\alpha_{p\ell} \bar{\mathcal{H}}_{q\ell} + \beta_{q\ell} \bar{\mathcal{H}}_{p\ell} + \gamma_{\ell} \bar{\mathcal{H}}_{pq} + \lambda_{p\ell} \bar{\mathcal{H}}^n_{nl} + \mu_{\ell} \bar{\mathcal{H}}^n_{np} + \nu_{\ell} \bar{\mathcal{H}}^n_{nq}$$

$$- \alpha_{q\ell} \bar{\mathcal{H}}_{p\ell} - \beta_{p\ell} \bar{\mathcal{H}}_{q\ell} - \gamma_{\ell} \bar{\mathcal{H}}_{qp} - \lambda_{q\ell} \bar{\mathcal{H}}^n_{nl} - \mu_{\ell} \bar{\mathcal{H}}^n_{nq} - \nu_{\ell} \bar{\mathcal{H}}^n_{np} = 2 \bar{\mathcal{H}}_{pq} \bar{\mathcal{H}}^n_{nl}$$

$$\underbrace{\bar{\mathcal{A}}_i \mathcal{H}^m}_{m_j} \mathcal{A}_j + \underbrace{\bar{\mathcal{A}}_j \mathcal{H}^m}_{m_i} \mathcal{A}_i \stackrel{\text{metric}}{=} \bar{\mathcal{A}}_{ij}$$

$$2 \mathcal{I}_k \overbrace{\left(\bar{\mathcal{A}}_i \mathcal{H}^m \mathcal{A}_j + \bar{\mathcal{A}}_j \mathcal{H}^m \mathcal{A}_i \right)} = 2 \overbrace{\left(\bar{\mathcal{A}}_{k_i} \mathcal{H}^m \mathcal{A}_{m_j} + \bar{\mathcal{A}}_{k_j} \mathcal{H}^m \mathcal{A}_{m_i} \right)} =$$

$$\alpha_i \mathcal{I}_{kj} \bar{\mathcal{A}}_j + \beta_k \mathcal{I}_{ij} \bar{\mathcal{A}}_j + \gamma_j \mathcal{I}_{ik} \bar{\mathcal{A}}_j + \lambda_i \mathcal{I}_{kj} \bar{\mathcal{A}}_{nj} | \bar{\mathcal{A}}_{nj}^n \mathcal{A}_j + \mu_j \mathcal{I}_{kj} \bar{\mathcal{A}}_{ni} | \bar{\mathcal{A}}_{ni}^n \mathcal{A}_i + \nu_j \mathcal{I}_{ij} \bar{\mathcal{A}}_{nk} | \bar{\mathcal{A}}_{nk}^n \mathcal{A}_k +$$

$$\alpha_j \mathcal{I}_{ki} \bar{\mathcal{A}}_i + \beta_k \mathcal{I}_{ji} \bar{\mathcal{A}}_i + \gamma_i \mathcal{I}_{jk} \bar{\mathcal{A}}_i + \lambda_j \mathcal{I}_{ki} \bar{\mathcal{A}}_{ni} | \bar{\mathcal{A}}_{ni}^n \mathcal{A}_i + \mu_i \mathcal{I}_{ki} \bar{\mathcal{A}}_{nj} | \bar{\mathcal{A}}_{nj}^n \mathcal{A}_j + \nu_i \mathcal{I}_{ij} \bar{\mathcal{A}}_{nk} | \bar{\mathcal{A}}_{nk}^n \mathcal{A}_k = 2 \mathcal{I}_k \bar{\mathcal{A}}_{ij}$$