# Eqation

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$$E_{\text{tot}}^{\text{Mad}}(R_c) \approx \frac{1}{2}\sum_{i=1}^{N} \sum_{\substack{j \neq i \\ (r_{ij} < R_c)}} \left( \frac{q_i q_j \operatorname{erfc}(\alpha r_{ij})}{r_{ij}} - \lim_{r_{ij} \to R_c} \left\{ \frac{q_i q_j \operatorname{erfc}(\alpha r_{ij})}{r_{ij}} \right\} \right) - \left( \frac{\operatorname{erfc}(\alpha R_c)}{2R_c} + \frac{\alpha}{\pi^{1/2}} \right) \sum_{i=1}^{N} q_i^2. \qquad (5.13)$$