

$$\sum_i q_i = 0, \quad \sum_i q_i \wedge \dot{q}_i = 0$$

$$\sum_i q_i^2 = \sqrt{3}, \quad \sum_i \rho_i^{-2} = 9\sqrt{3}, \quad \sum_i \dot{q}_i^2 = \frac{3}{4}$$

$$\sum_{i < j} r_{ij}^2 = 3\sqrt{3}, \quad r_{12}^2 r_{23}^2 r_{31}^2 = \frac{3\sqrt{3}}{2}.$$