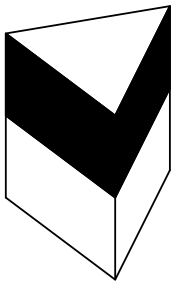
4.1 Irreducible Tensor Operators



We assume the symmetry group is C_{3v}, which is the symmetry group of the body shown in the figure.

- Show that C_{3v} is isomorphic to $\mathcal{P}_3$.
- Decompose linear momentum $\mathbf{p} = (p_x, p_y, p_z)$ and angular momentum $\mathbf{L} = \mathbf{r} \times \mathbf{p}$ into irreducible tensor operators for C_{3v}.

4.2 Compatibility Relations

Verify the compatibility relations given in class for $\mathcal{P}_3$ and its subgroups.