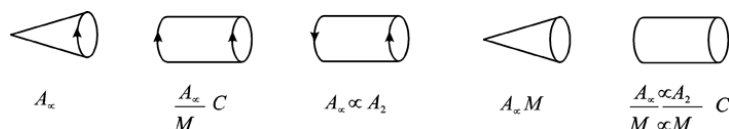# 6.3: Cylindrical system

The cylindrical system contains non-crystallographic point groups with one axis of revolution (or isotropy axis). There are five groups in the spherical system:

Hermann-Mauguin symbol	Short Hermann-Mauguin symbol	Schönfliess symbol	order of the group	general form
A_∞	∞	C_∞	∞	rotating cone
$\dfrac{A_\infty}{M} C$	$\bar{\infty}$	$C_{\infty h} \equiv S_\infty \equiv C_{\infty i}$	∞	rotating finite cylinder
$A_\infty \infty A_2$	$\infty 2$	D_∞	∞	finite cylinder submitted to equal and opposite torques
$A_\infty M$	∞m	$C_{\infty v}$	∞	stationary cone
$\dfrac{A_\infty}{M} \dfrac{\infty A_2}{\infty M} C$	$\bar{\infty} m \equiv \bar{\infty} \dfrac{2}{m}$	$D_{\infty h} \equiv D_{\infty d}$	∞	stationary finite cylinder

A_∞ $\qquad$ $\dfrac{A_\infty}{M} C$ $\qquad$ $A_\infty \infty A_2$ $\qquad$ $A_\infty M$ $\qquad$ $\dfrac{A_\infty \infty A_2}{M \infty M} C$

Note that $A_\infty M$ represents the symmetry of a force, or of an electric field and that $\frac{A_\infty}{M} C$ represents the symmetry of a magnetic field (Curie 1894), while $\frac{A_\infty}{M} \frac{\infty A_2}{\infty M} C$ represents the symmetry of a uniaxial compression.