$l = 3, m_l = 0$

$l = 3, m_l = \pm 1$

$l = 3, m_l = \pm 2$

$l = 3, m_l = \pm 3$

Figure 7-8 Polar diagrams of the directional dependence of the one-electron atom probability densities for $l = 3$; $m_l = 0,\ \pm 1,\ \pm 2,\ \pm 3$.