$$\frac{\sqrt{385}}{16}\left(5\sin\theta - 10\sin(3\theta) + \sin(5\theta)\right)\sin(3\phi), \quad \frac{\sqrt{77}}{16}\left(15\sin\theta - 20\sin(3\theta) + 6\sin(5\theta)\right)\sin(3\phi), \quad \frac{\sqrt{1155}}{32}\left(7\sin\theta - 28\sin(3\theta) + 28\sin(5\theta) - \sin(7\theta)\right)\sin(3\phi)$$

$$(1)$$

n	$m=-3$	$m=-2$	$m=-1$	$m=0$	$m=1$	$m=2$	$m=3$
0				$\frac{1}{2}$			
1			$\sqrt{3}\sin\theta\sin\phi$	$\sqrt{3}\cos\theta$	$\sqrt{3}\sin\theta\cos\phi$		
2		$\frac{1}{2}\sqrt{15}\sin^2\theta\sin(2\phi)$	$\sqrt{15}\sin\theta\cos\theta\sin\phi$	$\frac{1}{2}\sqrt{5}(3\cos^2\theta-1)$	$\sqrt{15}\sin\theta\cos\theta\cos\phi$	$\frac{1}{2}\sqrt{15}\sin^2\theta\cos(2\phi)$	
3	$\frac{1}{2}\sqrt{35}\sin^3\theta\sin(3\phi)$	$\frac{1}{2}\sqrt{105}\sin^2\theta\cos\theta\sin(2\phi)$	$\frac{1}{2}\sqrt{21}\sin\theta(5\cos^2\theta-1)\sin\phi$	$\frac{1}{2}\sqrt{7}(5\cos^3\theta-3\cos\theta)$	$\frac{1}{2}\sqrt{21}\sin\theta(5\cos^2\theta-1)\cos\phi$	$\frac{1}{2}\sqrt{105}\sin^2\theta\cos\theta\cos(2\phi)$	$\frac{1}{2}\sqrt{35}\sin^3\theta\cos(3\phi)$

n	$m=-3$	$m=-2$	$m=-1$	$m=0$	$m=1$	$m=2$
0				$\frac{1}{2}$		
1			$\sqrt{3}\sin\theta\sin\phi$	$\sqrt{3}\cos\theta$	$-\sqrt{3}\sin\theta\cos\phi$	
2		$\frac{\sqrt{15}}{4}\left(1-\cos(2\theta)\right)\sin(2\phi)$	$\sqrt{15}\sin\phi\sin\theta\cos\theta$	$\frac{\sqrt{5}}{4}\left(1+\cos(2\theta)\right)$	$-\sqrt{15}\cos\phi\sin\theta\cos\theta$	$\frac{\sqrt{15}}{4}\left(1-\cos(2\theta)\right)\cos(2\phi)$
3	$\frac{\sqrt{35}}{4}\left(3\sin\theta-\sin(3\theta)\right)\sin(3\phi)$	$\frac{\sqrt{105}}{4}\sin(2\theta)\cos\theta\sin(2\phi)$	$\frac{\sqrt{2}}{4}\left(3\sin\theta-\sin(3\theta)\right)\sin\phi$	$\frac{\sqrt{7}}{8}\left(3\cos\theta+5\cos(3\theta)\right)$	$-\frac{\sqrt{21}}{4}\left(3\sin\theta-\sin(3\theta)\right)\cos\phi$	$\frac{\sqrt{105}}{4}\sin(2\theta)\cos\theta\cos(2\phi)$	$-\frac{\sqrt{35}}{4}(3\ldots$