

## Answer on Question#69575 – Chemistry – Inorganic chemistry

**Question:** Explain the significance of Azimuthal quantum numbers. Indicate the possible values of  $l$  and  $m_l$  for  $n = 3$ .

**Answer:** The azimuthal number is a quantum number for an atomic orbital that determines its orbital angular momentum and describes the shape of the orbital. The azimuthal quantum number is the second of a set of quantum numbers which describe the unique quantum state of an electron.

The possible values of  $l$  and  $m_l$  for  $n = 3$ :

$n$	$l$	Sublevel Designation	$m_l$
3	0	3s	0
	1	3p	-1, 0, 1
	2	3d	-2, -1, 0, 1, 2

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