

	p_x	p_y	p_z
1	↑		
2	↓		
3		↑	
4		↓	
5			↑
6			↓

Therefore for p^1 config. 6 microstates but for more electron system this sub is lengthy and difficult, then we used formula.

$$\text{No. of microstates } \binom{n}{r} = \frac{n!}{r!(n-r)!}$$

$n =$ twice the no. of orbitals present in the subshell

$r =$ No. of unpaired electrons in them.

eg:- p^1 config - $n=6, r=1$

$$\text{no. of microstates} = \binom{6}{1} = \frac{6!}{1!(6-1)!}$$

$$= \binom{6}{1} = \frac{6 \times 5 \times 4 \times 3 \times 2 \times 1}{1 \times (5 \times 4 \times 3 \times 2 \times 1)}$$

$$= \frac{6}{1} = 6$$