Properties of Wave Junction:	MITWIFSS Date/_/_
The pobabili,	by That
a particle will be found at a given pla	ce in
space at a given instant of sime is a	haratenzad
by The Junchon 4(x, x, z, t). It is called	The
The probability of property of space at a given plant of sime is a by The Junchen $\psi(x,y,z,t)$. It is called wavefunction. This Junchion can be real or	complex.
The wavefunction of itself has no d physical significance. There is a simple is why if can not be interpreted in terms experiment. The probability that the partic a certain place at a time must be between o and 1.	irect
physical significance. There is a simple is	eeson
why i can not be interpreted in terms	ef
experiment. The probability that the partie	le of
a certain place at a some must be	lie
between o and 1.	
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. The square of the absolute value	sed The
wavedunction which is brown as probability	density.
The square of the absolute value wavefunction which is brown as probability It is a real quantity and given by	0
J= 44 = 1412	
It To tal probability of finding The partie	le in
It To tal probability of finding The partie	· · · · · · · · · · · · · · · · · · ·
J= J 4 cf * dV = J 1412 dV	
Ů,	
Since The particle is found somewhere in sp	ace
$\int_{V} \mathcal{Y} ^2 dV = 1$	
A wavefunction satisfies above equation is a normalized wave function.	alled
a normalized wave Junetion.	Tr -
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The product of the manefunction for and
The complex conjugate of the manefunction of constand Vanishes when integrated in the internal laib! wit to x, if
vanishes when integrated in the internal laibs
writ to x, in
1b
4 "ca) 4 (a) d) (-0
1 de la la la la la la la porchagonal in
Then y(x) and y(x) are said to be orthogonal in The internal [a,b]
The infernal [a, b]
Function satisfying both conditions, orthogonality
and normality are called orthonormal Junchon and,
wn Hen as
11411 - 0 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
function satisfying both conditions, orthogonal by and normality are called orthonormal function and, when as I if m=h If Y is not normalized wavefunction then It is possible to multiply y by a constant known as Normalisation constant.
It is not normalized wavefunction Then It
is nossible to multiply if by a constant known
as Mormalisation constant.
$\int \int \int V dx = 1$
N+N / Y+4 dx=1
IN12= [1 +1 +1
$\int \varphi' \varphi' \partial \lambda \int$
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