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THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

PHYSICS 310
LECTURE 10

The first part of the lecture discusses the concept of a wave function, ψ , and its relationship to the probability density, $|\psi|^2$. It is shown that the wave function must be normalized, meaning that the total probability of finding the particle somewhere in space must be equal to one. This is expressed mathematically as:

$$\int_{-\infty}^{\infty} |\psi|^2 dx = 1$$

The second part of the lecture introduces the Schrödinger equation, which governs the time evolution of the wave function. The time-dependent Schrödinger equation is given by:

$$i\hbar \frac{\partial \psi}{\partial t} = \hat{H} \psi$$

where \hat{H} is the Hamiltonian operator, representing the total energy of the system. For a particle in a potential $V(x)$, the Hamiltonian is:

$$\hat{H} = -\frac{\hbar^2}{2m} \frac{\partial^2}{\partial x^2} + V(x)$$

The time-independent Schrödinger equation is obtained by separating the variables, leading to:

$$\hat{H} \psi = E \psi$$

This equation is used to find the stationary states of the system, which are characterized by a constant energy E . The lecture then applies this to the case of a particle in a one-dimensional infinite potential well, showing that the wave functions are sinusoidal and the energy levels are quantized.



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I m V . B M l I . \ T I O N S !

The Alrranian, in behalf of Alma College, wishes to congratulate Kalamazoo College on the beginning of the 100th year of its activity. We at Alma can appreciate, however only a small school can. how much that school has done for the thousands of students who have studied there during the past century. A pioneer among the colleges in the west, Kalamazoo has given Michigan and the country countieuseful citizens, useful principally because of the attitude toward life which only a good ('hrintian college can inspire, and the excellent training which such a school can provide.

The relations between Alma and Kalamazoo have always been carried on in the friendliest spirit, and the good feeling between the two institutions is probably unequalled by any other two in the state. We sincerely hope that we may remain the best of friends, and wish our sister college another century of good luck, happiness, and success.

A M A N M I A N I M Y J

I'pon list meeting hi: classes last week, Professor Ktliciton warned hr pupils that the fact

pull this flawf runh any-
I uet wondered.

l t . 'pose you'd know why
nc and Rice room together?
• fhi* jlace is a meits. The oth-
night I said I'd lik* to date a
en and a guy said to call D>
iask for Jane. I did, and four
idml broad- leaned over th-
II iJo y>u know if this is Allen
' fir t appearnee on the cam-
' Seems a* tho somebody said
'tailed in the kindegarden and
red hi.sself up to Bible II. Sun-
day I aw La McGarvah trottin'
c.U of Sunday school all by her
ioneftonle; kinda 'prising, just
when everybody was getting ready
for anothe! announcement party.

So ticy took out Freedom's ap-
pendick>. If I was her, I woulda
pasted a sticker, "Do not open
until \ma ." You know, I can't
figger vllo-e here Wright Hall
dame out. They trade off all their
(lances a week before a guy has
even told them he'll go with 'em.
Say, which one is the Traverse
<ity blonde who hangs out with
the Junior girls? Did she really
transfer from Western State just
to apply chapel on her liberal ed-
ucation?

By thi way, ain't there any rule
saying how long a bird like Mac-
<.it* can hang onto 59? I ain't
curl- is, K l, but is it Len Graham
that holds the checker champion-
ship? He sure dopes out Jeanie's
move-. Do we always get beef on
.Monday I don't mind, tho, long
as I can tell it's beef. What wor-
rie me most, tho, is that the profs
might cat.h on why the Wilson
twins don't enroll in the same
clns es. If it works- -

"Cut your classes, just because
The profs won't know which
one it was!

How hard I wish that I could be
All born again with two of me!

hn? >}

Michigan State Swamps Alma in Opener 93-0

TIT! REPORT

Alma; Lewis Gray, Traverse City;
Bill Nurmberg, St. Louis.

Tackles Joe Vitek, Leo Washburn and Max Dean, Alma; Peterson, Kscanaba; Ray Hallin, Mt. Clemens.

Fnds Wilson Block. Kenneth Carter, Robert Fairchild and Harlan Slates, Alma; Glance, Fordson; Parker Lofthouse, Grand Kap-

Many Potential Varsity Stars in the Yearling Lineup.

More than thirty men turned out for Freshmen football last week and from all indications this year's squad will be the most powerful since the introduction of Freshman athletics six years ago. Although it is too early to pick any individual stars, several have already shown ability of varsity calibre. Perry Gray, Coach Campbell's first lieutenant, has given the new men a lot of work in the first few days of practice, and they will soon be ready to scrimmage with the varsity.

The list of men out includes:

Centers Jake Rule, Alma; John Darbee, Clawson; Bruce York, Belding.

Guards Kay Wilhelm, Arnold Waterman and Harold Henderson,

STUDENTS

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