

Quantum Mechanics
Physics 237
 Frank L. H. Wolfs
 Department of Physics and Astronomy
 University of Rochester

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Announcements

- Last remote lecture.
- Next week:
 - In-person lectures
 - In-person recitations
 - In-person office hours
- Homework # 2 is due on Friday. Last homework to be submitted online.

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**Some more facts: earning a living
 from the rising sea level.**

Legend:
● Area below sea level
● Area above present sea level

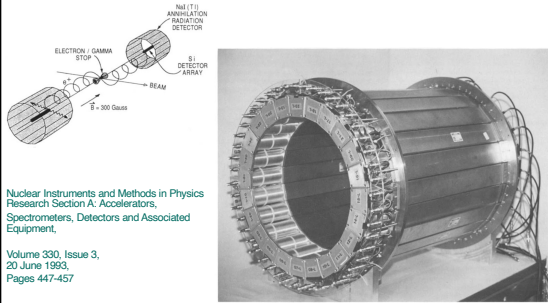
The Dutch Have Solutions to Rising Seas. The World Is Watching.

In the waterlogged Netherlands, climate change is considered a daily threat. In a landlocked city, it's an opportunity.

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Physicists are not good business people.
We invent, but do not make money.



Nuclear Instruments and Methods in Physics
Research Section A: Accelerators,
Spectrometers, Detectors and Associated
Equipment,

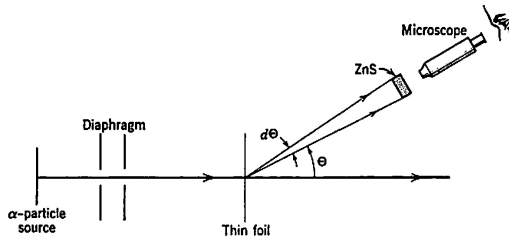
Volume 330, Issue 3,
20 June 1993,
Pages 447-457

Fig. 2. An assembled NaI(Tl) detector array.

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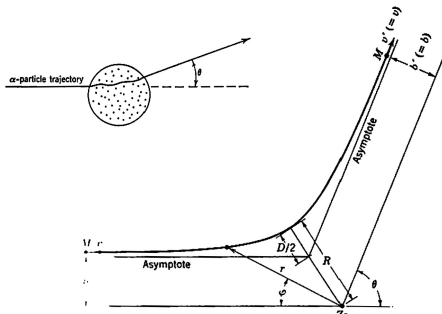
Rutherford.



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Scattering from the Nucleus.



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Scattering from the Nucleus.

incident beam of particles
 nuclei per cm^2 of target
 $d\Omega = \text{area}/r^2 = 2\pi \sin \theta d\theta$
 dN particles emitted into solid angle $d\Omega$

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Nuclear size.

Aluminum

$\frac{N(\theta)_{\text{observed}}}{N(\theta)_{\text{Rutherford}}}$

$R (10^{-14} \text{ m})$

$\frac{d\sigma}{d\Omega} (\text{mb/sr})$

ELASTIC
 INELASTIC

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5 Minute 16 Second Intermission.

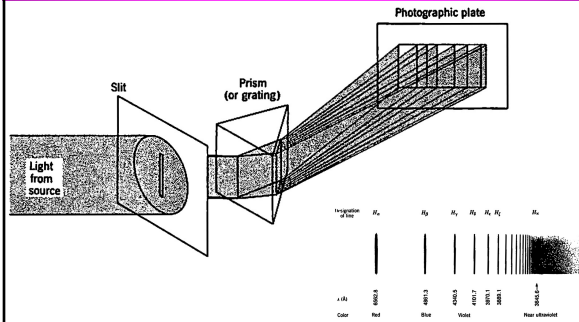
- Since paying attention for 1 hour and 15 minutes is hard when the topic is physics, let's take a 5 minute 16 second intermission.
- You can:
 - Stretch out.
 - Talk to your neighbors.
 - Ask me a quick question.
 - Enjoy the fantastic music.

DAVID BOWIE
 ALADDIN KANE

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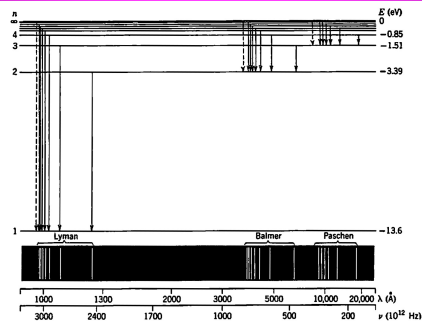
Atomic Spectra.



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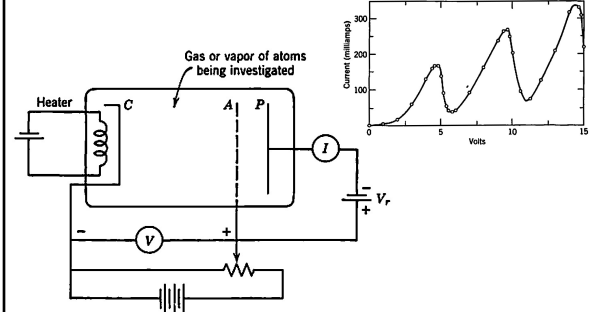
Bohr Predictions and Observations.



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Franks and Hertz. Looking for Atomic Energy Levels.



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ENOUGH FOR TODAY?

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