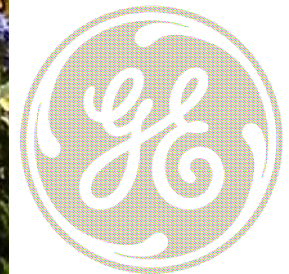




**NEXT GENERATION  
ISOMERS**  
Guildford  
2<sup>nd</sup> April 2007



Institute of *Physics*



Nuclear physics at Surrey/Battersea  
– almost 50 years old

REVIEWS OF MODERN PHYSICS

VOLUME 30, NUMBER 2

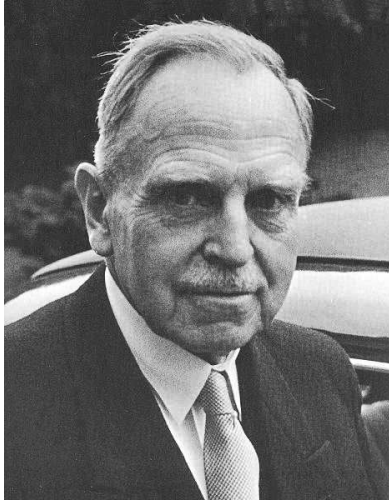
APRIL, 1958

**Interpretation of Scattering Cross Sections in  
Terms of Nuclear Size**

L. R. B. ELTON

*Department of Physics, Battersea College of Technology, London, England*

# Historical background: isomers



Otto Hahn: *discoverer of isomers in 1921*  
*discoverer of fission in 1938*



Carl von Weizsäcker: *explained isomers*  
*as spin traps in 1936 (at age 24)*

# isomer hot-spots

*“different in their stability and mode of breaking up”*



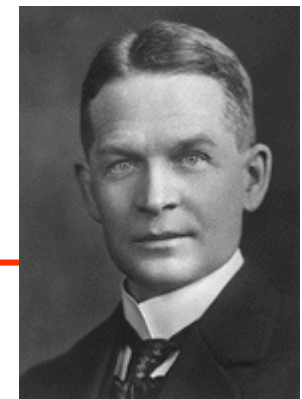
Lise Meitner,  
buried in Bramley, 1968,  
studied isomers in 1930's



Leo Szilard, found  
indium isomers, London, 1935

**Guildford**

Isomer Workshop 2007



Frederick Soddy, born Eastbourne 1877

predicted isomers, 1917



*“But you’ve no idea what a difference it makes,  
mixing it with other things”*

Lewis Carroll, *Through the Looking Glass*  
(Macmillan and Co., London, 1872)

**Lewis Carroll died and was buried in Guildford in 1898**

# Next Generation Isomers

“prediction is very difficult,  
especially about the future”

Niels Bohr

0930 Session I: **Alison Bruce** (Brighton) chair

**Rodi Herzberg** (Liverpool) "Isomers in superheavy nuclei"

**Yang Sun** (Notre Dame) "Theoretical study of K-isomers in superheavy nuclei"

**Adam Hayes** (Rochester) "The loss of K selection in  $^{178}\text{Hf}$ "

1100 coffee/tea **Next Generation Isomers**

1130 Session II: **Costel Petrache** (IPN Orsay) chair

**Paul Campbell** (Manchester) "Moments and radii of isomeric nuclear states"

**Thomas Bürvenich** (Frankfurt) "Direct interactions between nuclei and laser pulses"

**Jeff Carroll** (Youngstown) "Photo-induced isomer decays"

1300 lunch

1400 Session III: **Dave Cullen** (Manchester) chair

**Peter Thompson** (AWE) "Search for isomer production in high-intensity laser-plasma interactions"

**Ante Ljubicic** (Zagreb) "Atomic effects on nuclear transitions"

**Andrea Jungclaus** (Madrid) "New isomers in the doubly magic  $^{132}\text{Sn}$  region"

1530 tea/coffee

1600 Session IV: **Paddy Regan** (Surrey) chair

**Lidia Ferreira** (Lisbon) "Proton and neutron emission from high spin isomers"

**Gary Simpson** (Grenoble) "Microsecond isomers from fission fragments"

**Carsten Brandau** (GSI) "Storage ring experiments at the interface of atomic and nuclear physics"

1730 close

1800 reception in Wates House