8.701

Introduction to Nuclear and Particle Physics

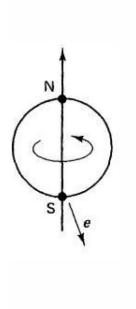
Markus Klute - MIT

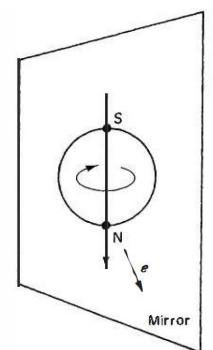
2. Symmetries

2.3 Parity

Mirror Symmetry

Lee and Yang (1956) wondered if there is any experimental tests of parity invariance.





Chien-Shiung Wu

1912-1997

Studied at Berkeley

Worked on Manhattan Project

1956 Wu-Experiment

1957 Nobel Prize

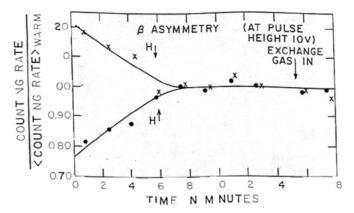


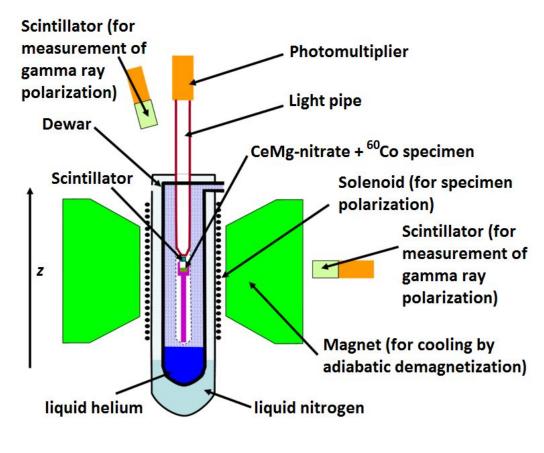
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Wu experiment

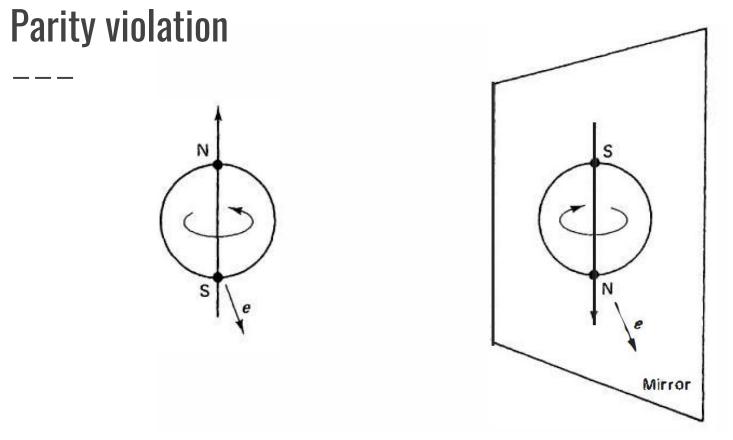
 $^{60}Co \rightarrow ^{60}Ni+e++$

Aligned spins of ⁶⁰Co and measured distribution of electrons.





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Parity violation is the signature of the Weak interaction

Parity Inversion

_ _ _

$$P: \begin{pmatrix} x \\ y \\ z \end{pmatrix} \mapsto \begin{pmatrix} -x \\ -y \\ -z \end{pmatrix}$$

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