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Faculty

SAMUEL TING

Thomas D. Cabot Professor of Physics 1976 Nobel Laureate



Name: Samuel C. C. Ting

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1976 Nobel Laureate

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Related Links:

[MIT Laboratory for Nuclear Science \(LNS\)](#)

[Co-recipient, 1976 Nobel Prize in Physics](#)

["The Discovery of the J Paricle: a Personal
Recollection"](#)

(1976 Nobel Lecture) [pdf]

Area of Physics:

[High Energy Physics](#)

Research Interests

Description of the [AMS-LNS collaboration](#) on the MIT LNS web site.

Biographical Sketch

Professor Ting received the Nobel Prize for the discovery of the J particle at Brookhaven National Laboratory, as well as numerous other prizes during his career. His further seminal results include: observation of nuclear anti-matter (the anti-deuteron); measurement of the size of the electron family (the electron, the muon, and the tau) showing that the electron family has zero size (with a radius smaller than 10^{-17} cm); precision study of light rays and massive light rays showing that light rays and massive light rays can transform into each other at high energies and providing a critical verification of the quark model; precision measurement of the radius of the atomic nuclei; discovery of the gluon (the particle responsible for transmitting the nuclear force); a systematic study of the properties of gluons; a precision measurement of muon charge asymmetry, demonstrating for the first time the validity of the Standard Electroweak Model (Weinberg, Glashow and Salam); and determination of the number of electron families and neutrino species in the Universe and the precision verification of the

Electroweak Unification Theory. He developed the first large superconducting magnet in space and has demonstrated separation of helium isotopes in space. Currently, he is leading a 15 nation, 500 physicist international collaboration to use the U.S. International Space Station (ISS) National Laboratory to probe fundamental questions of modern physics including the antimatter universe and the origin of cosmic rays and dark matter.

[Autobiography](#) for The Nobel Foundation.

Selected Publications

Professor Ting's publications are available on the [SPIRES HEP Literature Database](#).

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