Tata Institute of Fundamental Research

Homi Bhabha Road, Colaba, Mumbai, INDIA, 400005

Special ASET Colloquium*

A new Measure: The Revolutionary Quantum Reform of the Metric System

On 20 May 2019, World Metrology Day, the international metrology community adopted revolutionary changes to the International System of Units (the SI, or Metric System) wherein all of the base units of measure are defined by fixing the values of constants of nature. The SI is now firmly based on quantum methods of measurement. This talk will discuss why we needed such a reform and how we achieved it.

Dr. William D. Phillips, 1997 Nobel Laureate in Physics

Joint Quantum Institute, National Institute of Standards and Technology and University of Maryland, USA

Dr. William Phillips received his physics doctorate from the MIT. Dr. Phillips' doctoral thesis concerned the magnetic moment of the proton in H2O. He later did work with Bose–Einstein condensates. In 1997 he won the Nobel Prize in Physics together with Claude Cohen-Tannoudji and Steven Chu for his contributions to laser cooling, and especially for his invention of the Zeeman slower. Dr. Phillips has been awarded numerous honours. They include Samuel Wesley Stratton Award of the National Bureau of Standards (1987), Michelson Medal of the Franklin Institute (1996), Arthur L. Schawlow Prize in Laser Science (APS) (1998), and Presidential Rank Award (2005). He is a fellow of American Academy of Arts and Sciences (1995), NIST (1995), National Academy of Sciences (1997), and European Academy of Arts, Sciences and Humanities (2000). For a more delightful biographical account of Dr. Phillips, please visit https://www.nobelprize.org/prizes/physics/1997/phillips/biographical/.

Date & Time: Wednesday, 17th November 2021, 9:30am IST

YouTube live-stream link: https://youtu.be/BRSuEyP1ho8

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