



Fifty Years of Revolutions in Laser Physics

by
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FRANCE – HONG KONG
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Abstract:

The celebration of the International Year of Light provides an opportunity to reflect on the extraordinary revolutions that the development of lasers have made possible in various fields of physics over the last half-century. Lasers have been used to cool atoms to the lowest temperatures ever achieved, leading to the discovery of new forms of matter with remarkable properties. They have allowed physicists to control and manipulate isolated quantum particles with an exquisite precision, promising applications to information processing. Lasers have also led to the invention of atomic clocks measuring time with an uncertainty of only one second over the age of the Universe, an extraordinary precision opening the way to ultra-precise tests of fundamental laws in physics. Lasers have also been turned into light sources with extreme properties, combining huge power fluxes with ultra-short pulse durations, which has opened the way to the experimental studies of a wide variety of extremely fast phenomena in atomic, molecular and solid state physics. None of these developments were foreseen when the first lasers appeared in the 1960's, at the time I started my career as a physicist. I will try to convey in this talk the excitement and wonderment of the scientists of my generation who have witnessed the extraordinary achievements in physics that the laser "light fantastic" has brought about.

Date: 18 November 2015 (Wednesday)

Time: 4:30 pm

Venue: Connie Fan Multi-media
Conference Room
4/F, Cheng Yick-chi Building
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