

Session History of Light (September 16-17, 2015)

On occasion of the International Year of Light and Light-based Technologies (IYL 2015) proclaimed by the UN General Assembly, the SISFA 2015 Conference dedicates a special session to the history of light.

In addition to various invited talks, the session proposes a physical replication of Foucault's experiments on the velocity of light and an exhibition on the history of diorama which will also afford direct sight of rare original images.

General aim of the session is to draw attention and stimulate reflection on important moments and steps of the history of light.

The history of diorama involves not only the technical side but also the spectacular uses and the social impact of light. The other parts of the session keep an eye on various phases of the complex relation between light and gravitation and the no less complex relation between the corpuscular and the wave representations of light, up to the integration of both aspects into a new non-classical representation. One of the contributions discusses the relation between the classical and the quantum descriptions of light from the point of view of researchers who nowadays exploit the knowledge gained in the field of classical optics as a tool and guide for a more effective understanding of old and new phenomena in quantum optics.

The replication of Foucault's experiments has been made possible only by a close integration of specialised skills separately available in the same physics department and this proposes a model of interdisciplinary cooperation to be hopefully developed in the future, together with the no less important interaction with scholars coming from other scientific areas.

SUMMARY

1) INVITED TALKS

-Jean Eisenstaedt – Observatoire de Paris:

Light and gravitation from Newton to Einstein

-Franco Giudice – Università di Bergamo:

The debate on the nature of light: Newton and his critics

-Fausto Casi – Museo dei Mezzi di Comunicazione di Arezzo:

History of Diorama

-Marco Liscidini – Università di Pavia:

Seeing classical and quantum optics in a new 'light'

2) REPLICATION OF FOUCAULT'S EXPERIMENTS ON THE VELOCITY OF LIGHT

-Lucio Fregonese, Matteo Galli – Università di Pavia:

Foucault's experiments on the velocity of light: history, replication and interdisciplinary teaching

3) EXHIBITION ON DIORAMA

-Fausto Casi – Museo dei Mezzi di Comunicazione di Arezzo:

Diorama: trasparenze e luci riflesse