



SEMINARIO

Photonic crystal fibers, properties and applications Fibre a cristallo fotonico, proprietà e applicazioni

Stefano Selleri
UNIVERSITÀ DI PARMA

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INFN, Laboratori Nazionali del Sud
Via S. Sofia 62, Catania
Aula Azzurra

Abstract: In the last decade, also thanks to strong advancements in the fabrication technology, remarkable developments and improvements have been observed in the field of Photonic Crystal Fibers (PCFs), also known as microstructured fibers or holey fibers. PCFs have thus demonstrated to be an interesting platform for many application fields including engineering, physics, chemistry and biology. Many sensors for specific analytes have been reported, novel sensing chemistries or transduction principles have been introduced, and applications in various sensing and biosensing fields have been realized. PCF also drove laser development, and in particular high power lasers, due to the increased degree of freedom in the fiber cross section design which allow to jointly achieve high power level and high spatial quality of the output beam. Discussions on the main issues related to the properties and the use of PCFs will be presented focusing on the fiber design for application in laser and sensing field.

Stefano Selleri, IEEE Senior Member, is Full Professor at Department Engineering and Architecture, Parma University. His current research includes photonic crystal fibers, fiber lasers for industrial applications, nonlinear optics and fiber sensors. He has been also involved in the development of biosensors for the detection of analytes and genetic diseases by exploiting properties of standard and photonic crystal optical fibers.

Organizers

Gino Sorbello, Università degli Studi di Catania e INFN-LNS

Luigi Celona, INFN-LNS

The seminar will take place in Italian