

# Università degli Studi di Trieste

Dipartimento di Fisica

Seminario INFN

## Antonio Valentini

Dipartimento Interateneo di Fisica “M. Merlin”  
Università degli Studi di Bari, INFN- Sezione di Bari

Wednesday, December 6, 2:45 PM – Lecture Room A, F building, Dip. di Fisica – via Valerio 2 – Trieste

## UV PHOTOCATHODES (RD in Bari: from CsI to Diamond).



After a brief introduction to the theory of photoemission processes, the most interesting results of the researches carried out over the years on CsI-based photocathodes will be presented. In particular, it will be highlighted as different growth techniques, such as the simplest thermal evaporation or ion beam sputtering can control, through some characteristic parameters, the material properties affecting the Quantum Efficiency (QE) and aging processes of the photocathodes. The results obtained on CsI will be the starting point to the idea that diamond can be a valid alternative for the realization of photocathodes, and will also be presented for this material the evolutionary phase of the research that has led to the implementation

of devices starting from nanocrystalline powders. Finally the procedure used to obtain photocathodes and preliminary results of the quantum efficiency measurements will be shown. The QE dependence on the properties of this nanocrystalline diamond powders and the procedures to enhance the QE will be presented in the last part.

Organizzazione a cura di: S. Dalla Torre, E. Vesselli

dipartimento di  
TRIESTE **fisica**



UNIVERSITÀ  
DEGLI STUDI DI TRIESTE

**INFN**  
TRIESTE  
Istituto Nazionale di Fisica Nucleare  
Sezione di Trieste

**Everyone interested in the topic is welcome to attend**

Informazioni: [seminari@ts.infn.it](mailto:seminari@ts.infn.it)