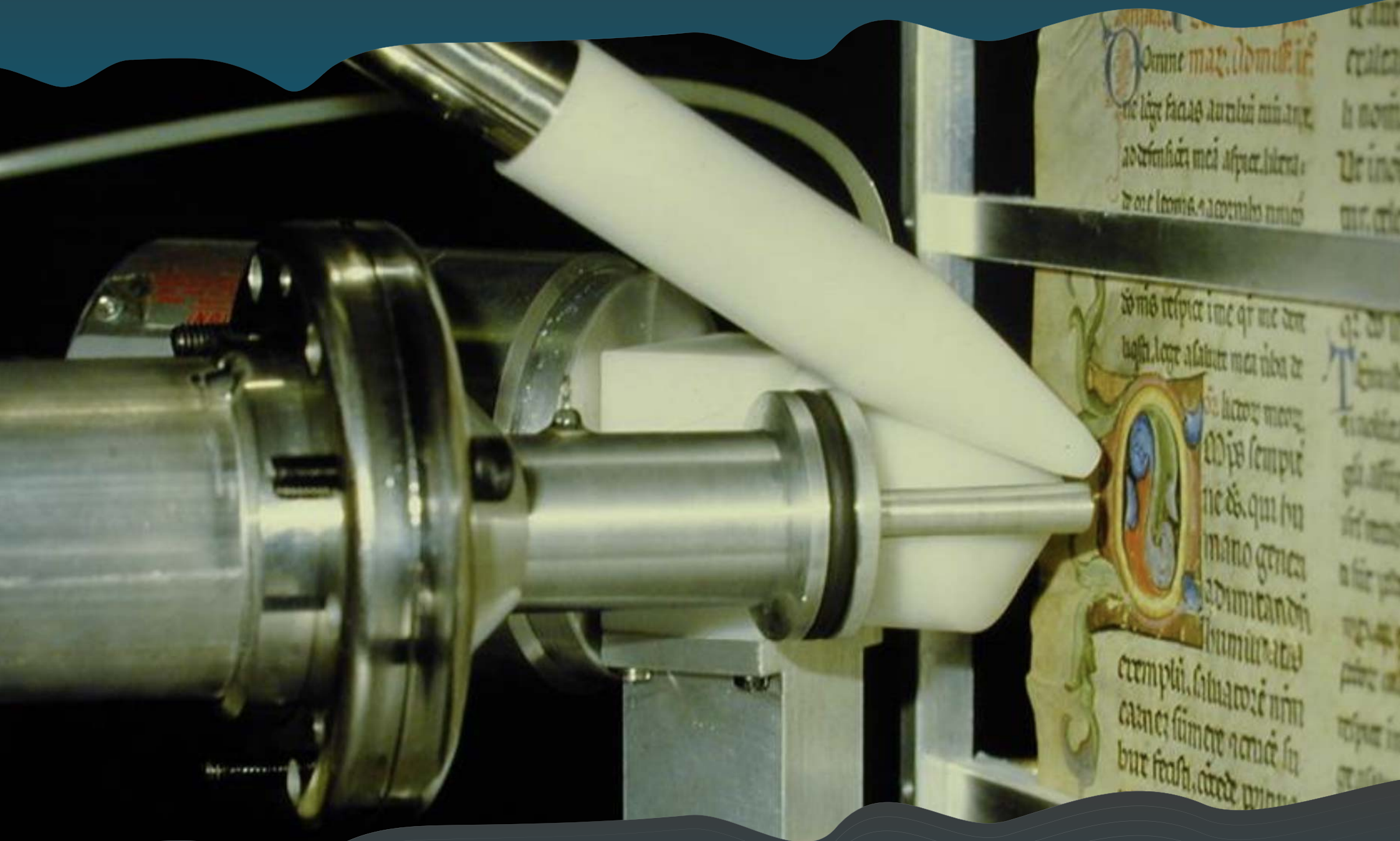


PHYSICS COLLOQUIA 2022/2023



DEC 12
2022

Massimo Chiari | Istituto Nazionale di Fisica Nucleare, Division of Florence (ITA)

ION BEAMS FOR THE ENVIRONMENT AND CULTURAL HERITAGE: THE LABEC EXPERIENCE.

ore 14:30 | AULA MA | VIA MANGIAGALLI 31 MILANO

The LABEC, the ion beam laboratory of nuclear techniques for the environment and cultural heritage of the National Institute of Nuclear Physics (INFN), located in the Scientific and Technological Campus of the University of Florence, Italy, is a large laboratory dedicated to applications of accelerator-related analytical techniques, based on a 3 MV Tandatron accelerator, such as Ion Beam Analysis (IBA) and Accelerator Mass Spectrometry (AMS). IBA is a suite of analytical techniques that exploit the interactions of rapid (MeV energy range) charged particles with matter to determine the elemental composition and structure of the surface regions of materials. At LABEC we have a great expertise in IBA measurements with external beams, performed while maintaining the targets/objects to be analysed in atmosphere at ambient pressure, avoiding the need of picking up samples, reducing ion beam induced damages and greatly enhancing the measurement throughput. In this presentation I will describe the IBA facilities presently available in the LABEC laboratory, their technical features and the planned upgrades, including some success stories of recent applications, mainly focused on studies of cultural heritage, atmospheric aerosol composition and forensic science.



UNIVERSITÀ DEGLI STUDI DI MILANO
DOTTORATO DI RICERCA IN FISICA
ASTROFISICA E FISICA APPLICATA

DIPARTIMENTO DI FISICA
via Celoria 16 | 20133 MILANO
Tel. +39 02 50317740

<http://phd.fisica.unimi.it> | phd@fisica.unimi.it