



Presentation of a new Virgo group

INFN/University Genova

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Cascina, May 23, 2007

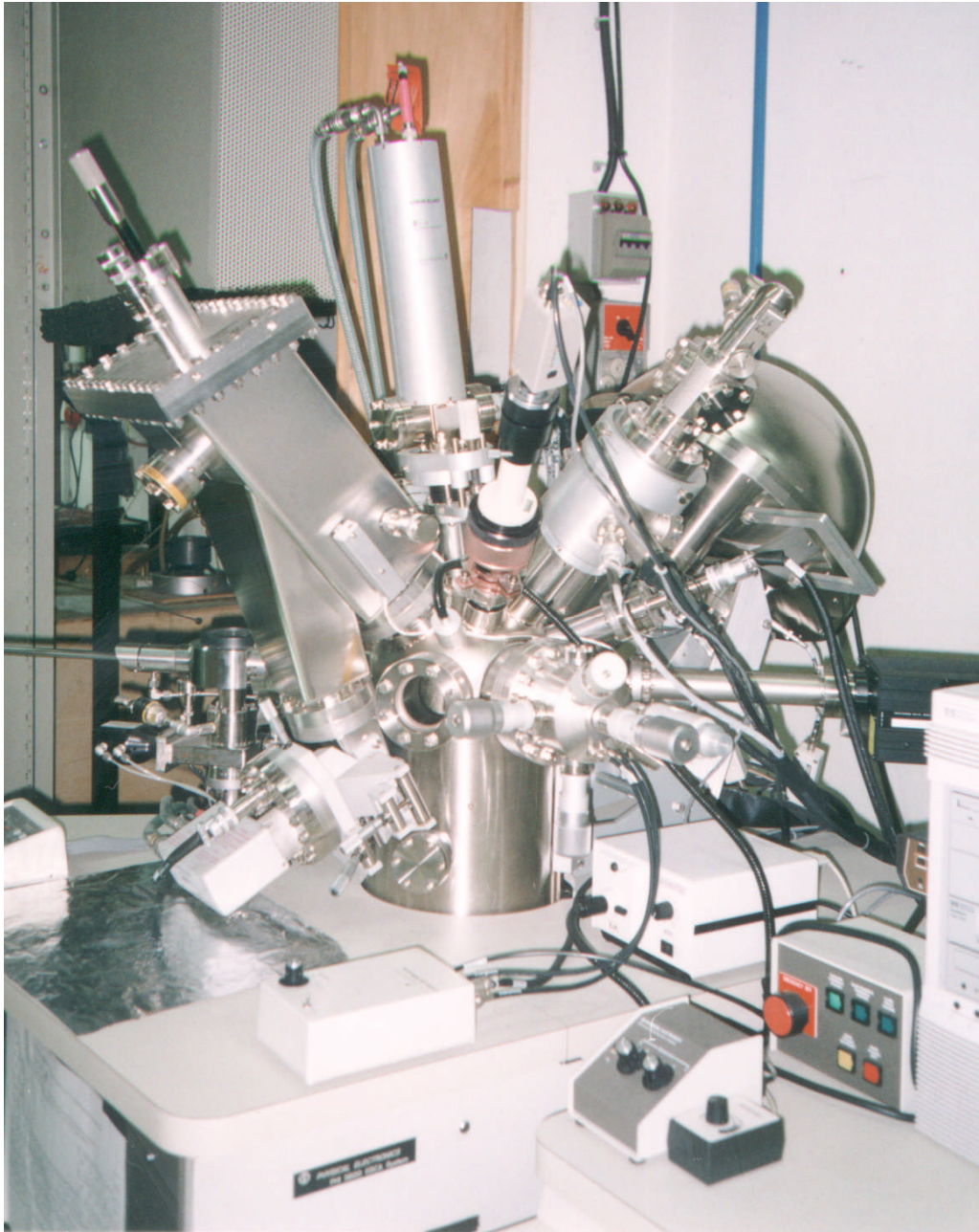
LSC-VIRGO Joint Meeting

Foreword

- In Genoa there is a wide and long-dating expertise in surface and material science both in the Physics Department and in INFN
- Several instruments are available for surface analysis and thin film characterization and growth (Ion sputtering, MBE), down to the monolayer limit

- It is possible to carry out, with high surface sensitivity, studies of structure, composition and chemical state of materials (XRD, STM, AFM, XPS/AES)
- The optical characterization of substrates and films is possible as well (spectroscopic ellipsometer)
- There are also solid competences in the controlled modification of materials, by means of heating, sputtering or ionic implantation

XPS/AES spectrometer



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Proposed contributions

- Study and development of a method to assess the chemical composition of the pollution on the mirrors (on-site, whenever possible)
- Participation to the R&D activities on Adv. Virgo, (WG3, Suspensions and thermal noise issues)
 - analysis of the structure and optical properties of the reflecting coating on mirror samples with silicon and silica substrates
 - chemical and morphological characterization of surfaces through XPS/AES and AFM measurements
 - controlled structural modification of the coatings by ionic sputtering and ionic implantation

Contributions (continued)

- Study and development of a technique for the neutralization of the residual charge on the mirror surface (if required)
- Participation to the commissioning and operation of the detector (also through the analysis of technical and scientific data)
- Participation to data taking shifts

Group composition

Name	FTE	Position	Author	Main activity
Corrado Boragno	0.2	Associate Professor	no	Mirror Pollution
Francesco Buatier	0.3	University Researcher	no	Adv. Virgo WG3
Maurizio Canepa	0.3	Associate Professor	no	Adv. Virgo WG3
Roberto Cereseto	0.4	INFN Technician	no	Mirror pollution
Andrea Chincarini	0.4	INFN Researcher	yes	Mirror pollution
Gianluca Gemme	0.7	INFN Senior Researcher Group leader	yes	Mirror pollution, Adv. Virgo WG3
Lorenzo Mattera	0.2	Full Professor	no	Adv. Virgo WG3
Mirko Prato	0.5	Post-doc fellow	yes	Mirror pollution

- Several of the Genoa group members have at present responsibilities in other experiments; it is foreseen that their involvement will be positively modified over next few years: the FTE of all listed persons is relative solely to the first year of activity, and will be revised at the renewal of the MoA