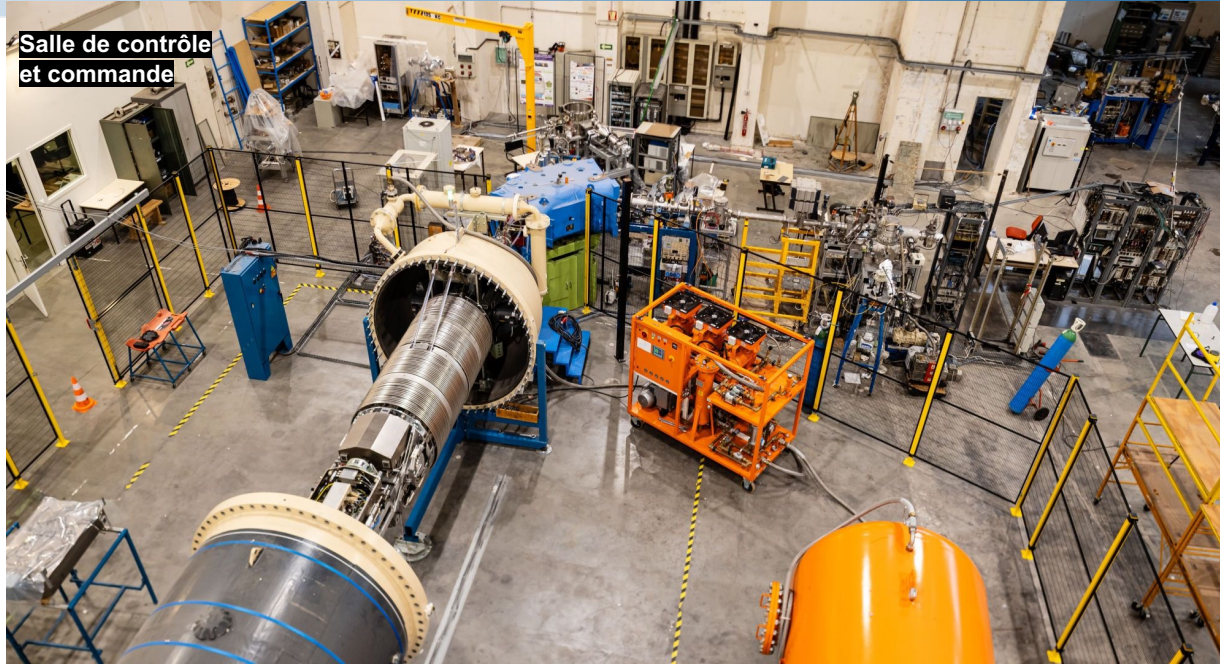


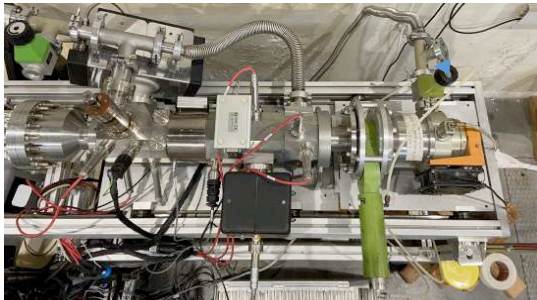


MOSAIC installations au bâtiment 201

Accélérateur Pelletron 4 MV



NAPIS 20 kv

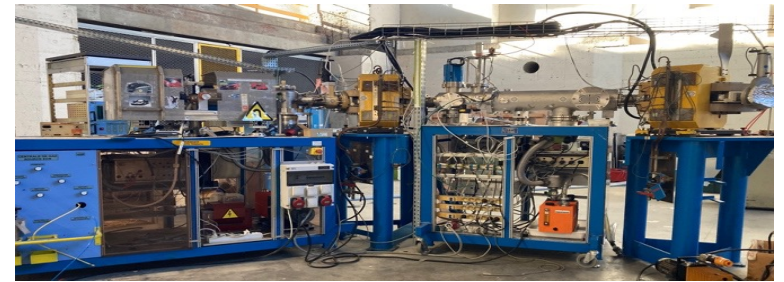


LMIS
OrsayPhysics

ECR
Pantchnik

Source d'ions atomique et
moléculaires multichargés

TANCREDE 20 kv

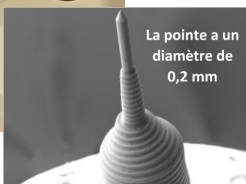
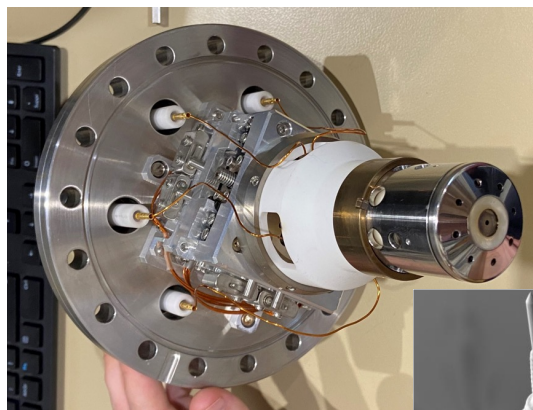




Les sources d'ions

ORSAY PHYSICS
TESCAN ORSAY HOLDING

Liquid Metal Ion Source (LMIS)



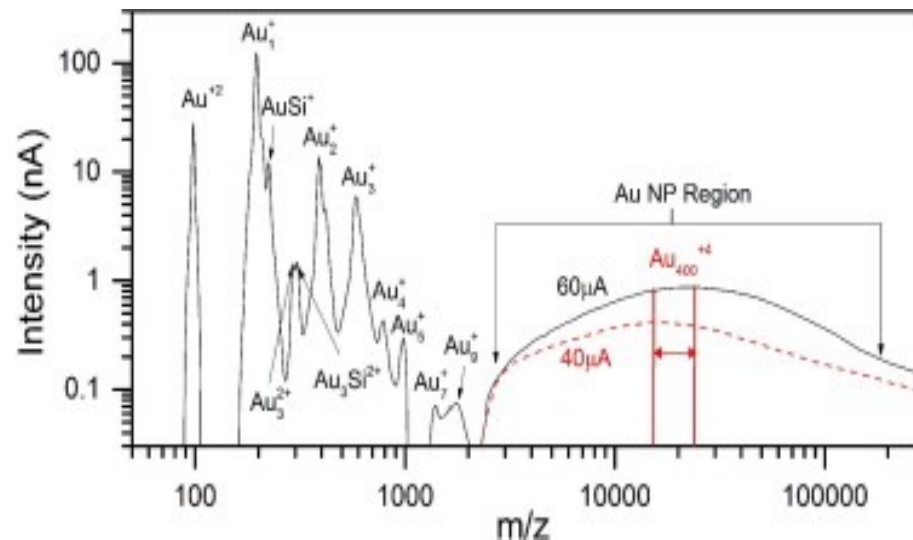
La pointe a un diamètre de 0,2 mm

Gold Silicon source with the large reservoir

Heating Current $\sim 3A$
Life time $\sim 400h$, $40 \mu A$
Taille $\varnothing 10-800\mu m$
Intensité $100pA-50 nA$



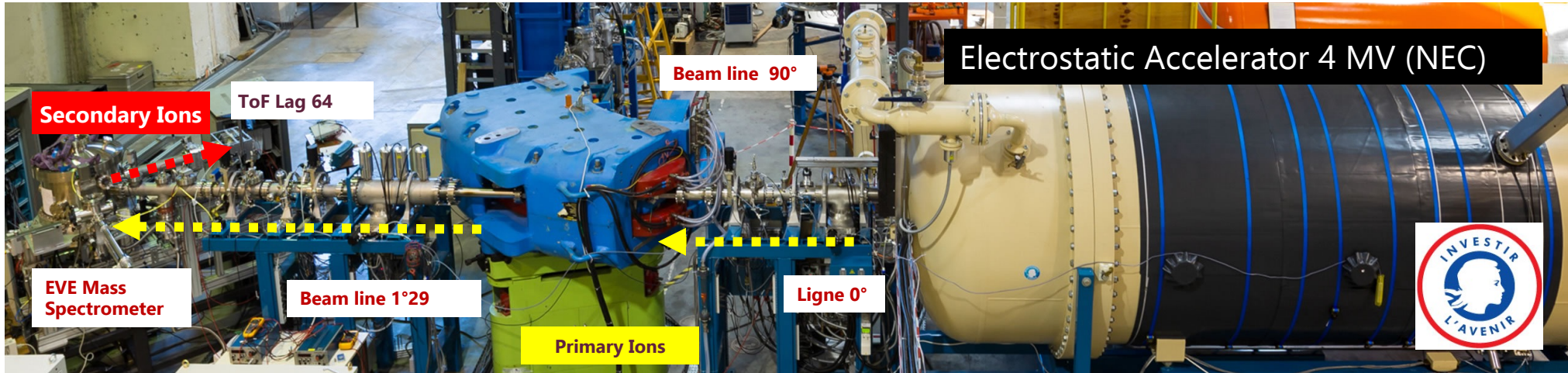
Wien filter



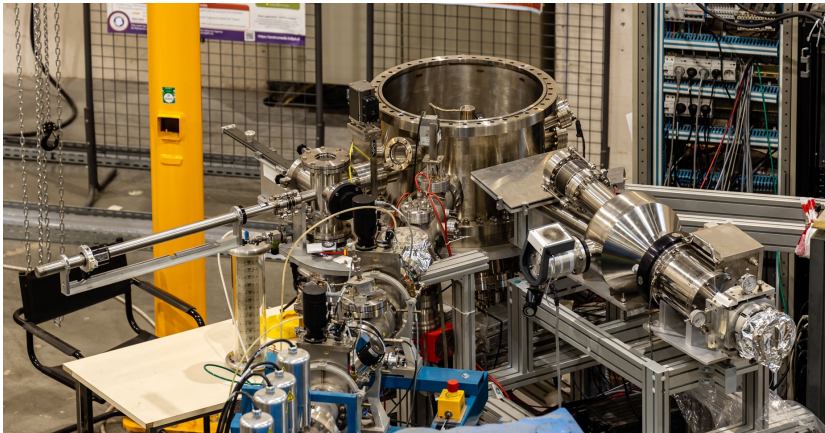
Mass spectrum of Au_n^{+q} projectiles delivered by the LMIS source



EVE Mass spectrometer



EVE : MeV Nanoparticles TOF SIMS @ Andromède



Andromède project:

Surface analysis and modification with probes from hydrogen to nanoparticles in the MeV energy range

August 2015
NIM B Beam Interactions with Materials and Atoms 365



PHYSIQUE NUCLÉAIRE
NUCLEAR PHYSICS

Collaborations

biology, astro-chemistry,
physics of materials...



Analyse TOF-SIMS de films minces de résine photosensible pour la lithographie extrême UV avec une sonde de nanoparticules d'or de haute énergie

Isabelle Ribaud (IJCLab PN FIIRST)

Accumulation de l'euporium dans le champignon filamenteux
Podospora anserina Mélody Maloubier (IJCLab EE Raphynée)

 **mec**



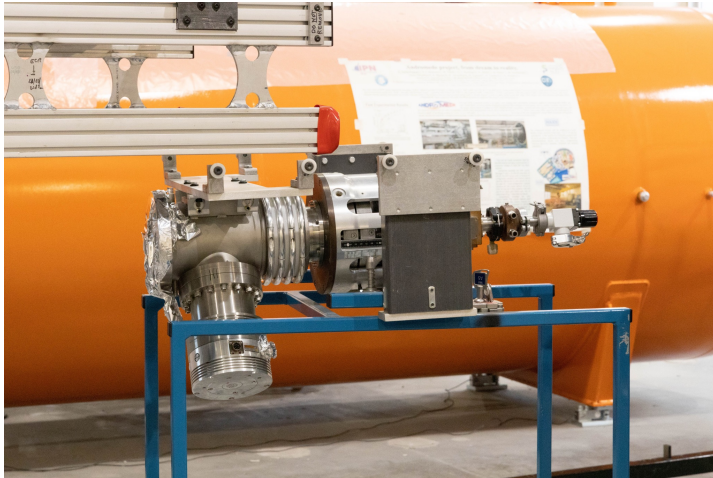
PHYSIQUE NUCLÉAIRE
NUCLEAR PHYSICS



E&E **Energie & Environnement**
Energy & Environment



Source ECR



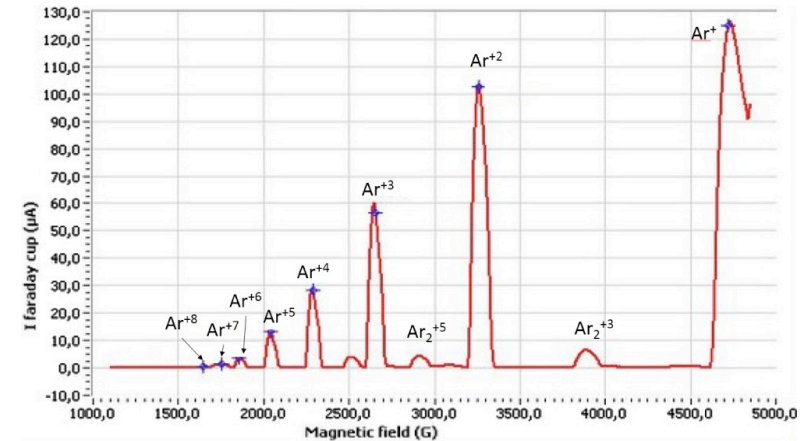
PANTECHNIK
Boost Your Physics

Wien filter

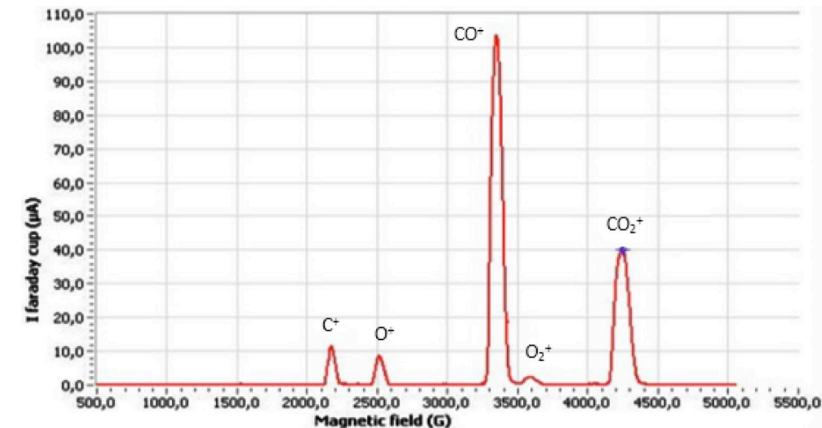


Source MicroGan 10 GHz

Magnetic adjustment
allowing the production of
multicharged atomic ions or
molecular ions



Mass spectrum / Argon plasma



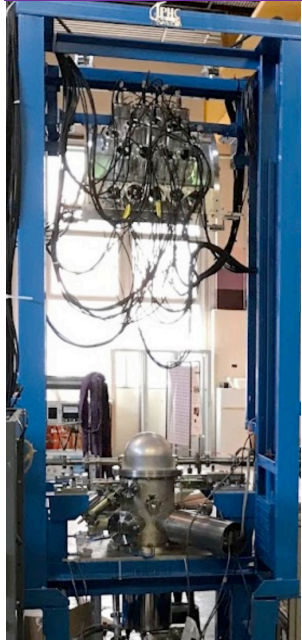
Mass spectrum CO2 plasma

Source ECR		
Particules	E max (MeV)	I max (µA)
Ions monochargés	4	200
¹² C (2+/3+)	6,6	20
¹⁶ O (4+/5+)	19	20
CH _n ^{q+} , C ₂ H ₅ ⁺	3	2
Xe ⁶⁺	20	20
Ar ⁶⁺	24	50
Kr ⁸⁺	32	30
H ⁺ (CH ₄)	1	1

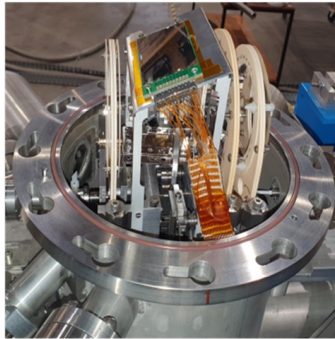


In situ experiments

Collaboration Stella (IPHC *et al*)

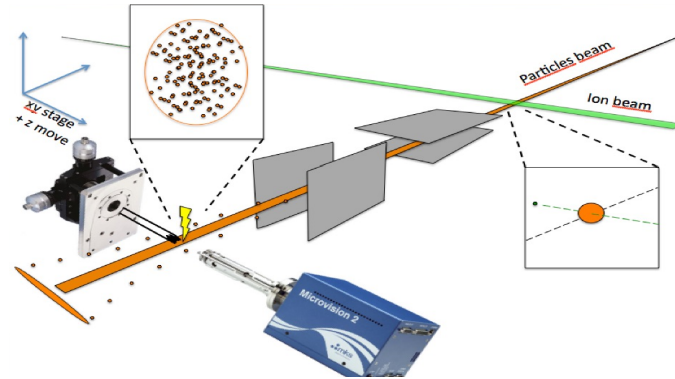


C²⁺
500nA - 3,1 μA
1,98MV - 2,7 MV



Particle detectors of the Stella Experiment

NanoCr (IJCLab *et al*)



Ar⁺ à Ar⁵⁺
D'une centaine de nA à qqs
μA sur cible
1,5 MV à 3MV

Collaboration NewJEDI (Ganil *et al*)



H⁺ <1μA
1MV
24/7





Andromede Facility

Coincidence measurements of fusion reactions involving carbon and oxygen with the high-precision STELLar LAboratory (STELLA) (Andromède)

Aurélie Bonhomme (IPHC),

La charge des grains dans les milieux interstellaires - rôle des collisions ion-grain (Andromède)

Marin Chabot (IJCLab A2C Astrophysique et Cosmochimie),



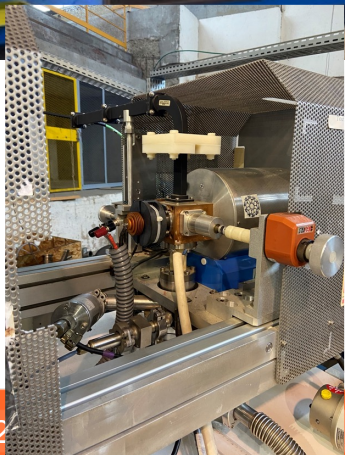
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A2C Astroparticles, Astrophysics
& Cosmology



Platform 25 kV



ECR Source 10 GHz

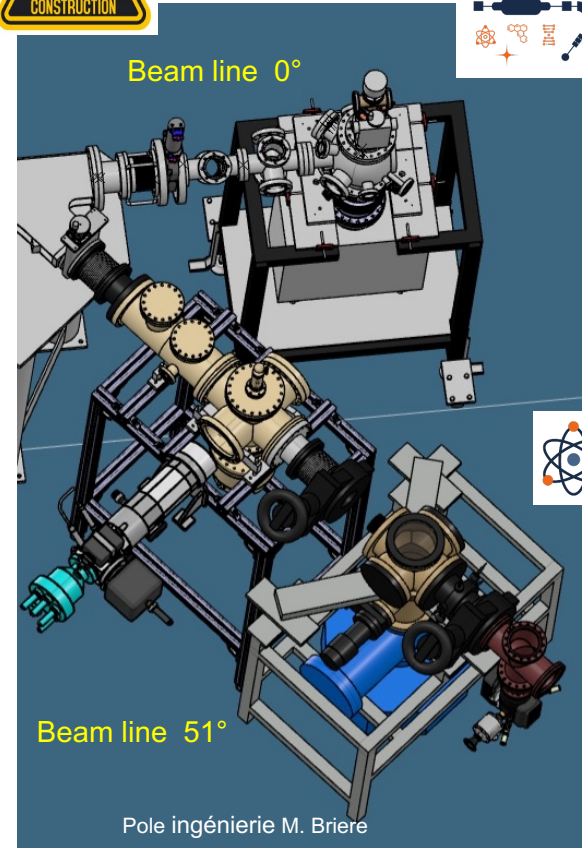
Multicharged atomic and molecular ions



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Beam lines



Physique des Accélérateurs
Accelerator Physics



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Pole ingénierie M. Briere



Remise en service

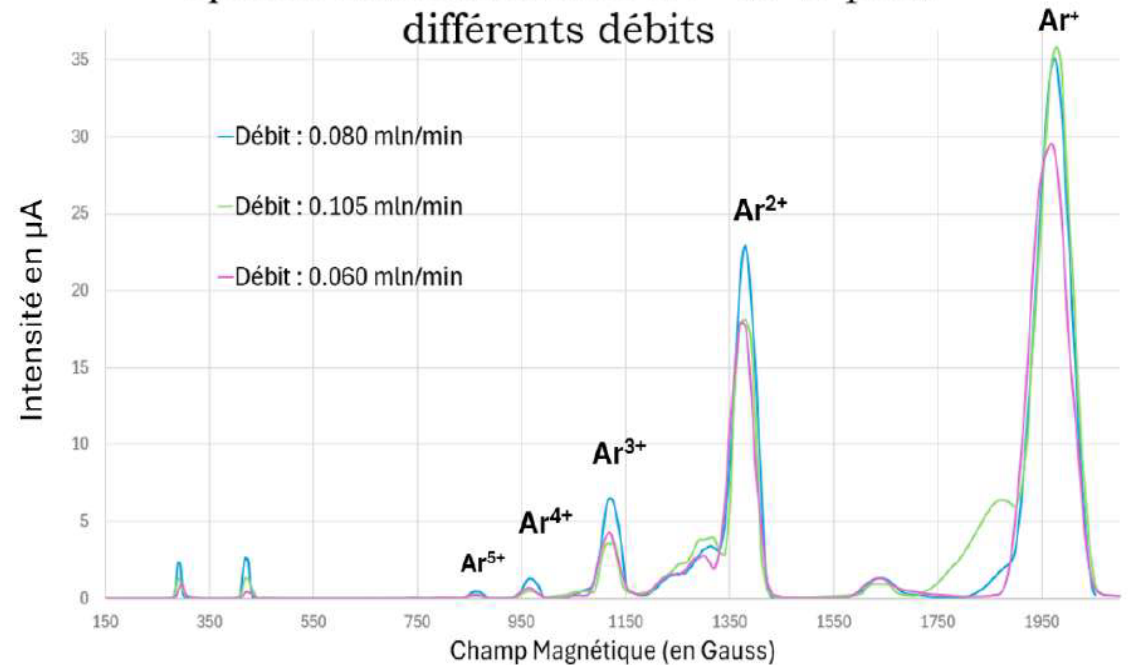
Production d'ions multichargés
à partir d'un gaz d'Argon

Analyse et Caractérisation du faisceau
d'ions

-> stage L3/MAG1 Physique-Fondamentale,
stage Master 1 Physique et Applications

(Sarah Naimi, Serge Della Negra pole nucléaire)

Spectre d'intensité à 10 kV -10 W pour
différents débits



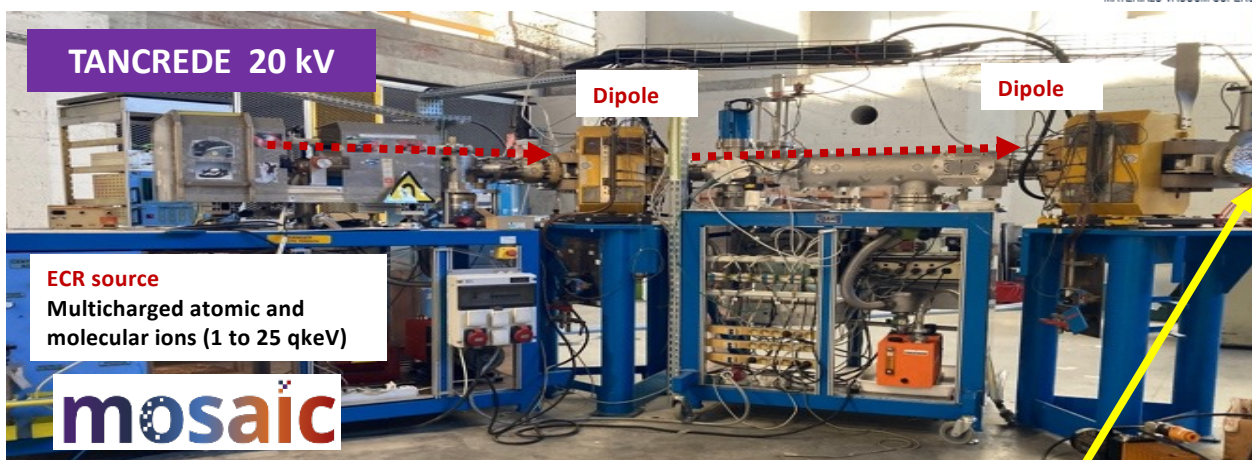
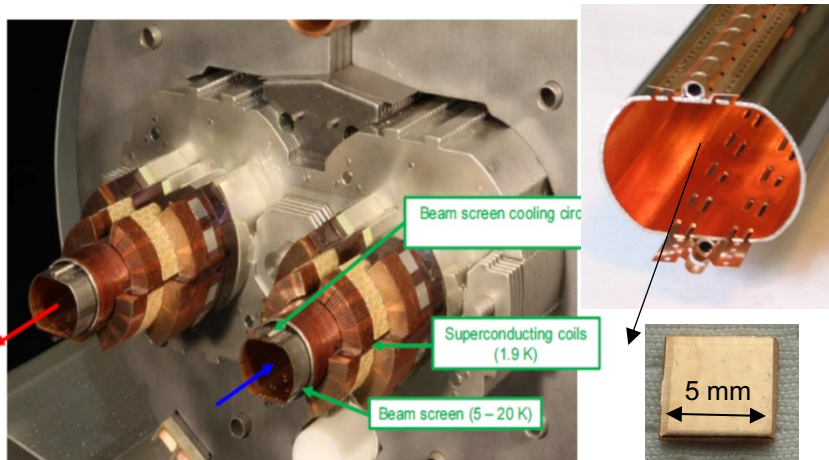


Perspectives Tancrede, Ligne de faisceaux 0°



LHC beam screen samples

Suheyla BILGEN – Bruno MERCIER – Gaël SATTONNAY, Accelerator pole / IJCLab



Stimulated desorption of adsorbed molecules + surface analysis

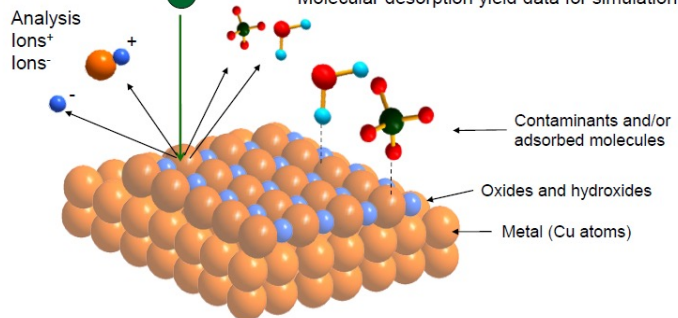
Atomic / molecular ions

(Ar⁺, H⁺, H₂⁺, C⁺, CO⁺, CO₂⁺, CH₄⁺)

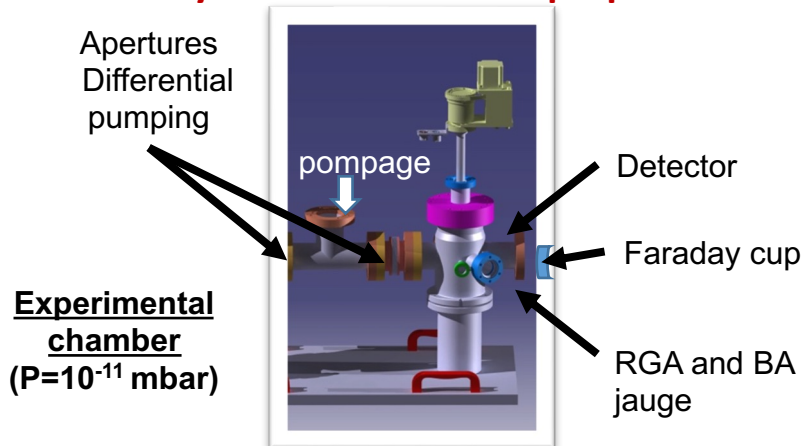
1 keV – 10 keV (Tancrede)

1 MeV - 10 MeV (Andromede)

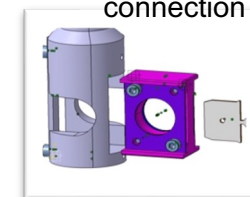
Molecular desorption yield data for simulation



UHV analysis chamber under preparation



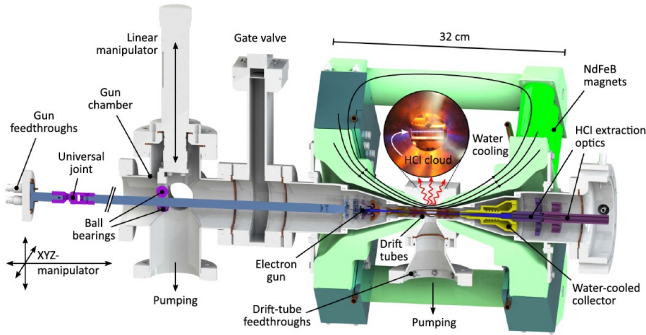
Modification of the experimental chamber connection



On-going dev. !



Expériences autour de Tancrède

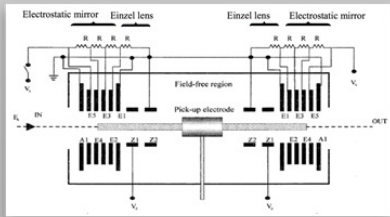


Projet HINA et développement de l'EBIT
Michele Sguazzin (IJCLab PN FIIRST)

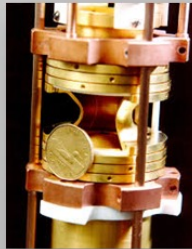


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Zajfman's Electrostatic Ion Beam Trap (EIBT)



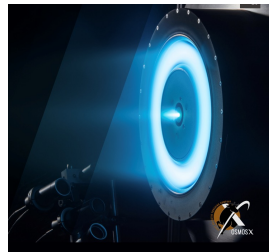
Penning traps



Piège de Zajfman
Maroua Benhatchi (IJCLab PN FIIRST)



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Propulsion multichargée
Romain Bellet (IJCLab PN FIIRST et Osmos-X)



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Thèse CIFRE (2023)