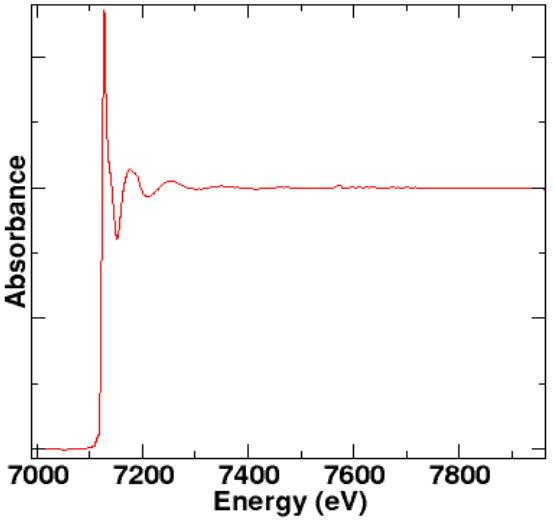
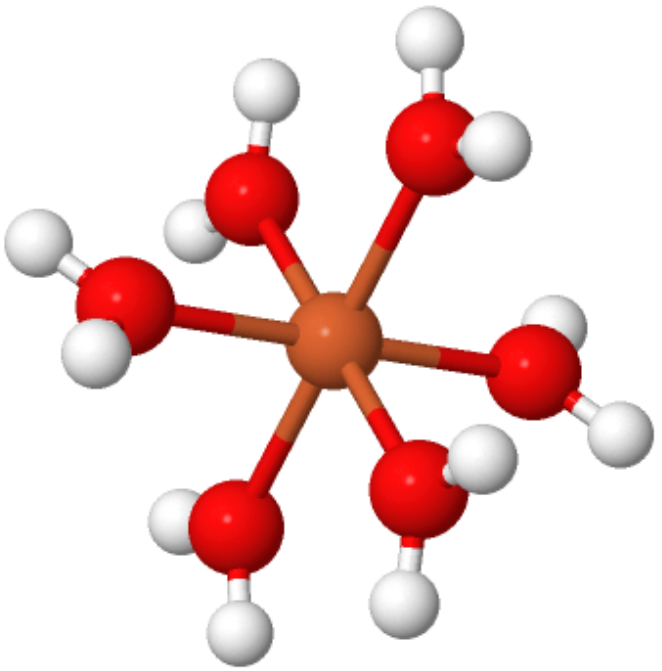
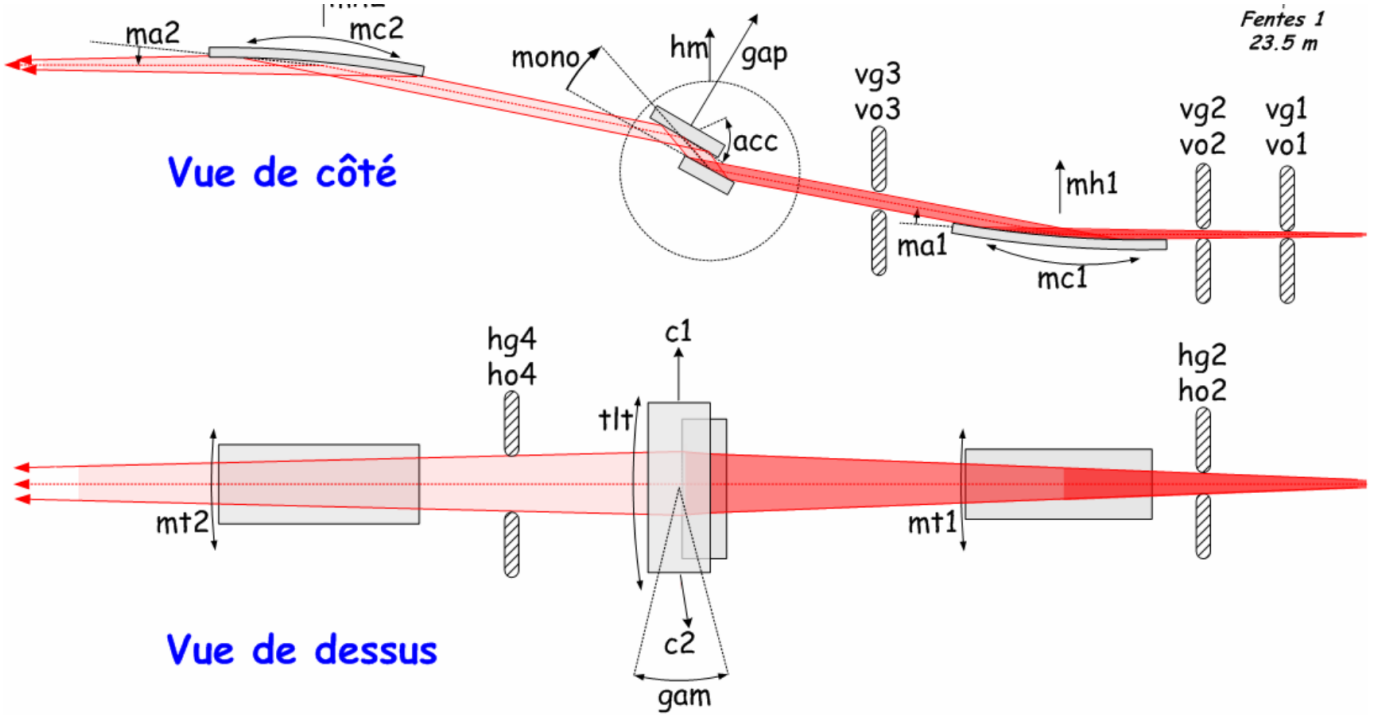
# INTRODUCTION

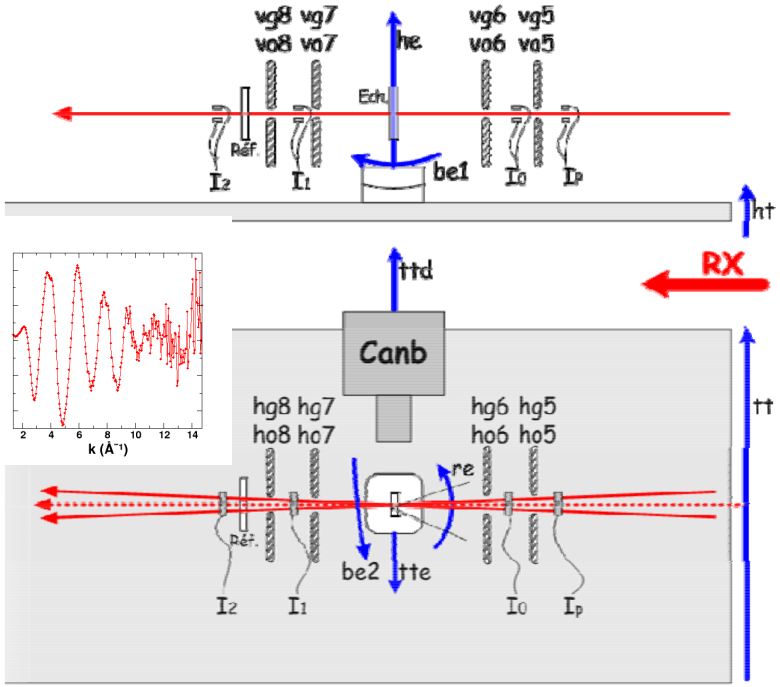
# Votre objectif :

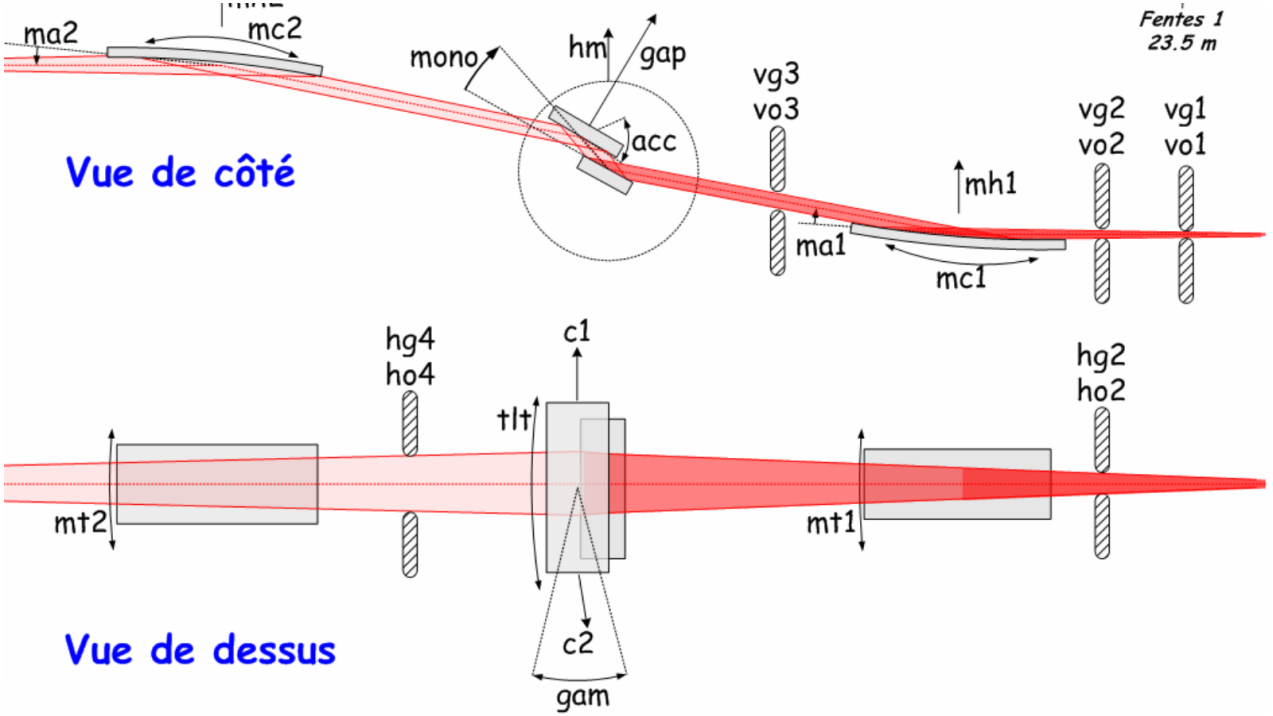


# Vos outils :


ma2
mc2
mono
hm
gap
acc
vg3
vo3
Fentes 1
23.5 m
vg2
vo2
vg1
vo1
mh1
ma1
mc1
Vue de côté
hg4
ho4
c1
tlt
hg2
ho2
mt2
mt1
c2
gam
Vue de dessus


vg8 vg7
vo8 vo7
he
vg6 vg5
vo6 vo5
Ech.
Réf.
I2
I1
be1
I0
Ip
ht
RX
ttd
Canb
tt
hg8 hg7
ho8 ho7
hg6 hg5
ho6 ho5
re
be2
tte
k (Å⁻¹)


Fentes 1
23.5 m
ma2
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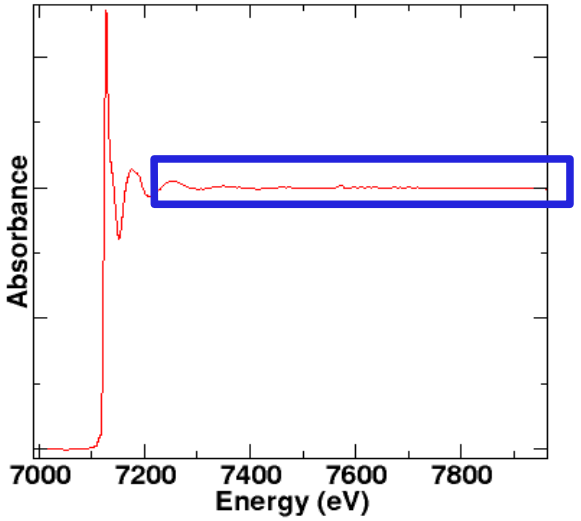
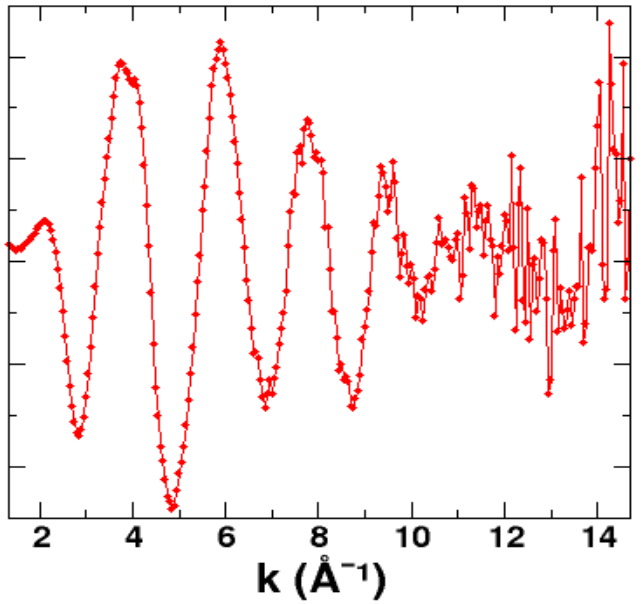
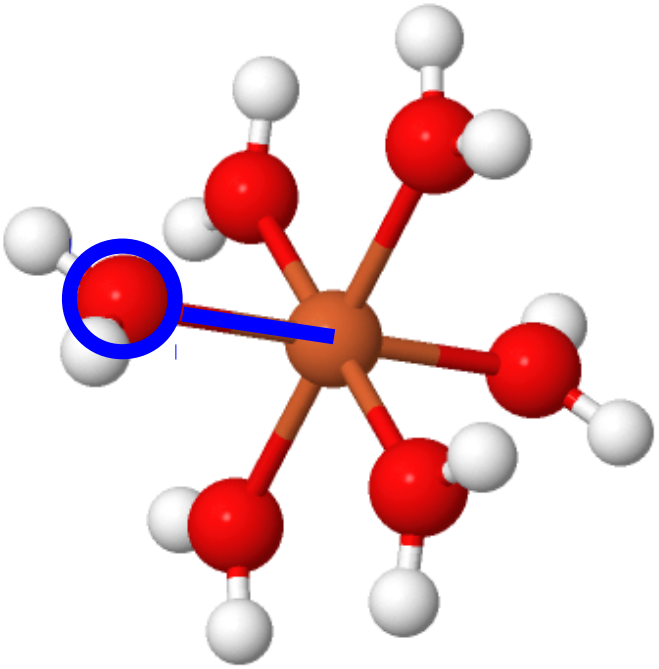
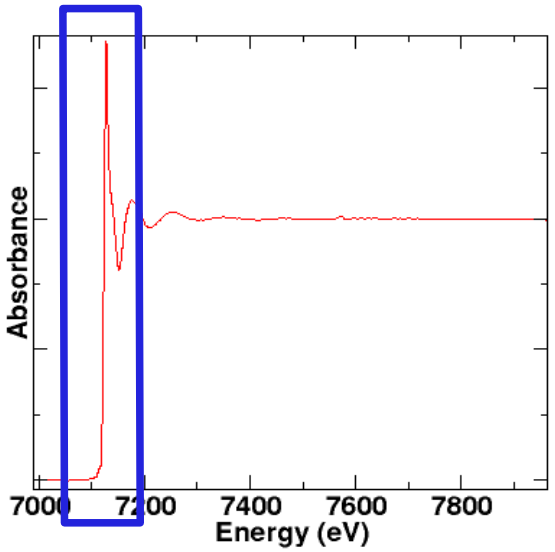
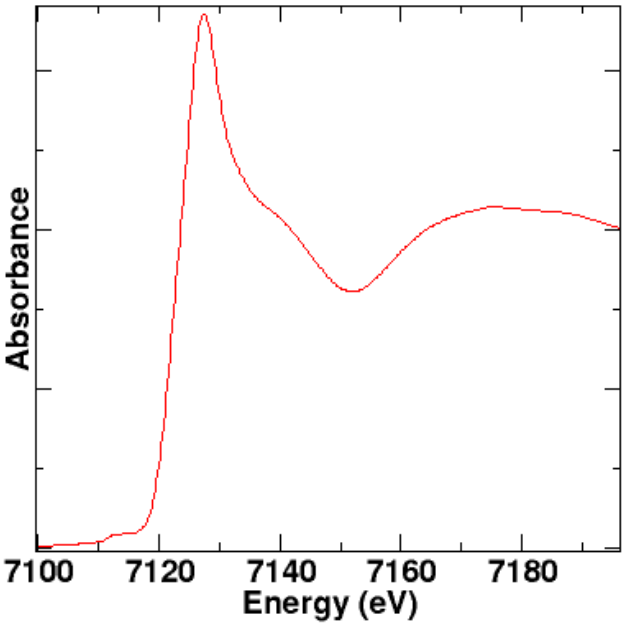


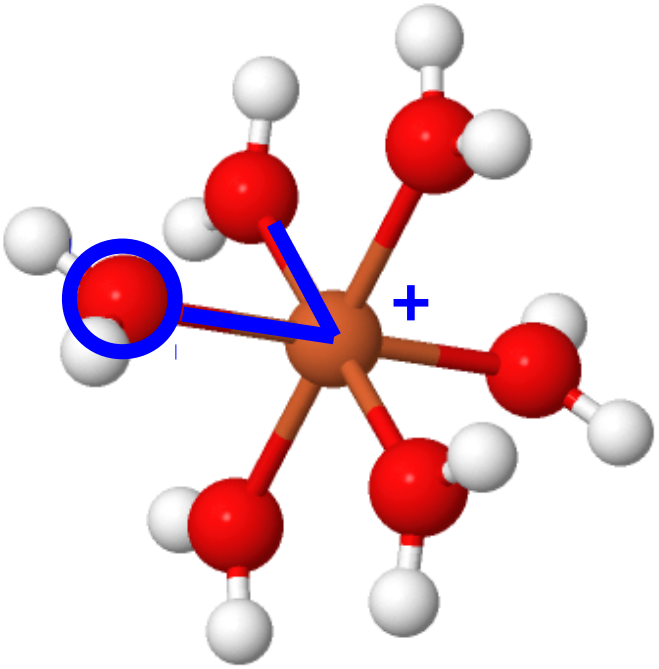



> EXAFS : structure radiale




> XANES :
structure 3D et électronique

## Avantages :

> sonde locale

> sonde sélective

> énergie des RX

> complémentaire d'autres techniques

> longueur d'absorption

## Inconvénients :

> sonde locale

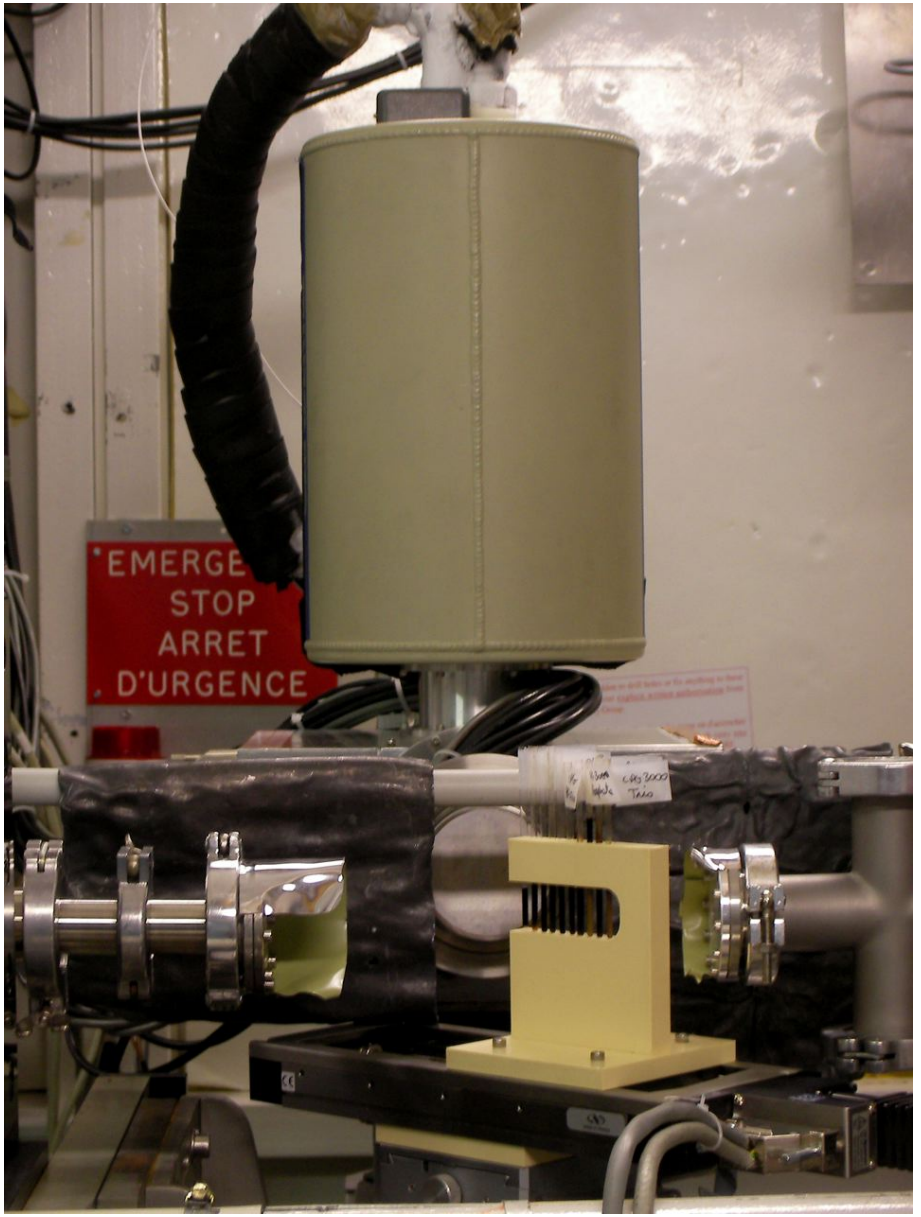
> sonde sélective

> énergie des RX

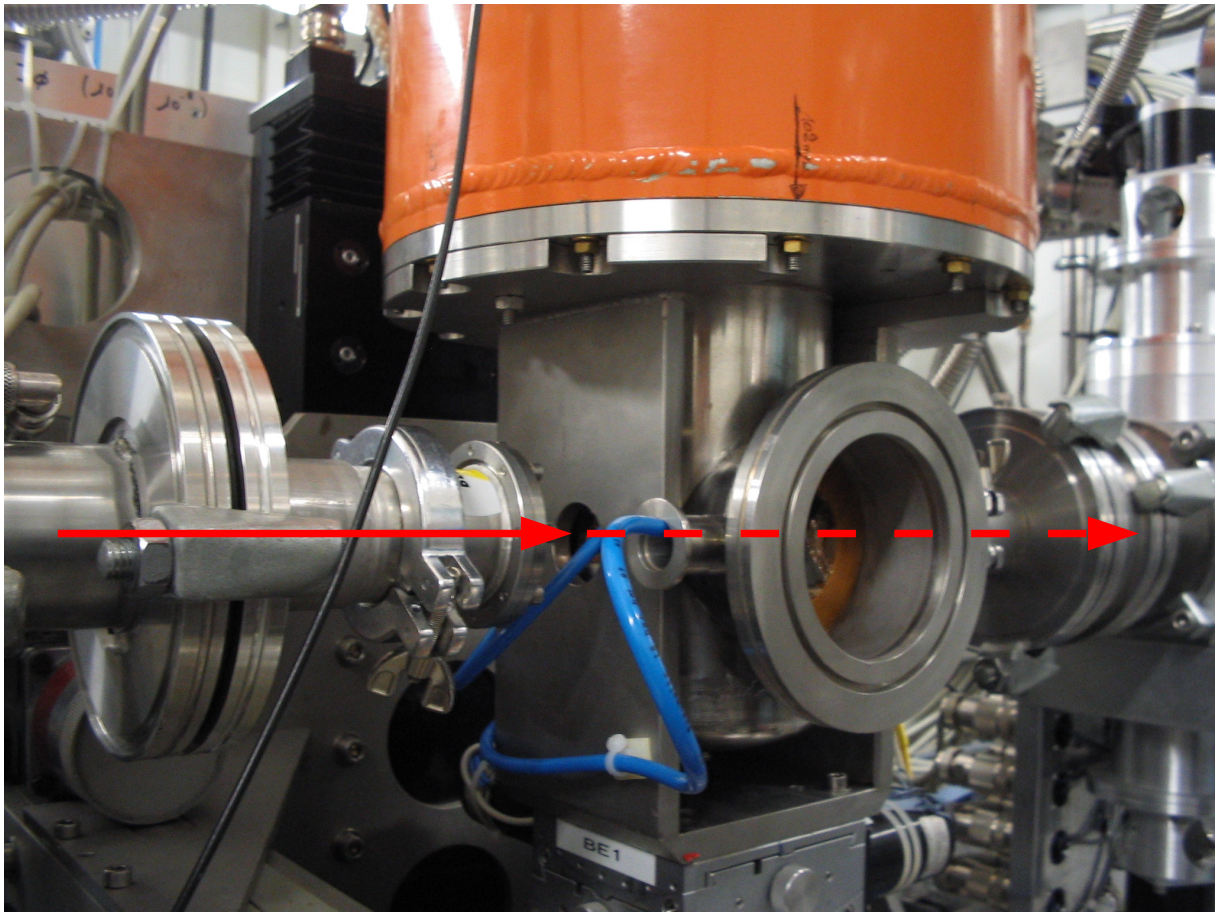
> complémentaire d'autres techniques

> longueur d'absorption

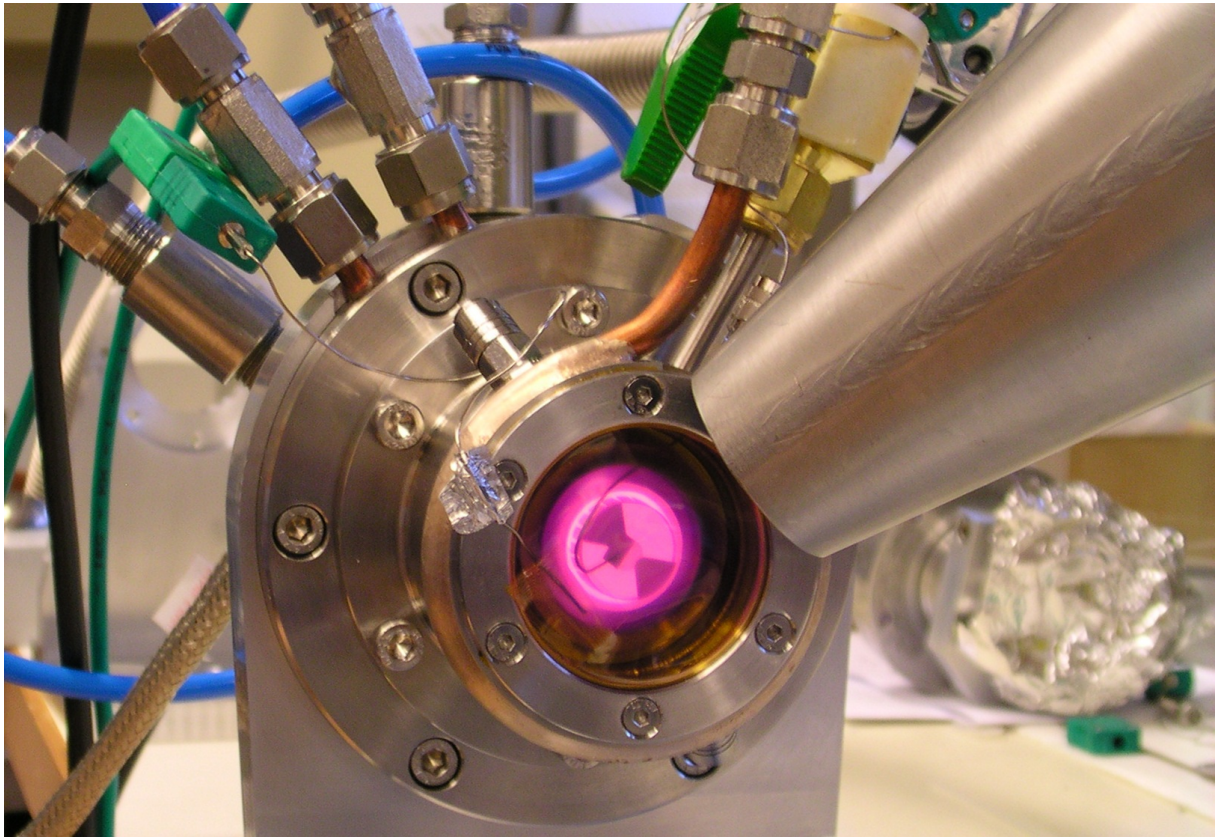
# Environnement échantillons : ambiante

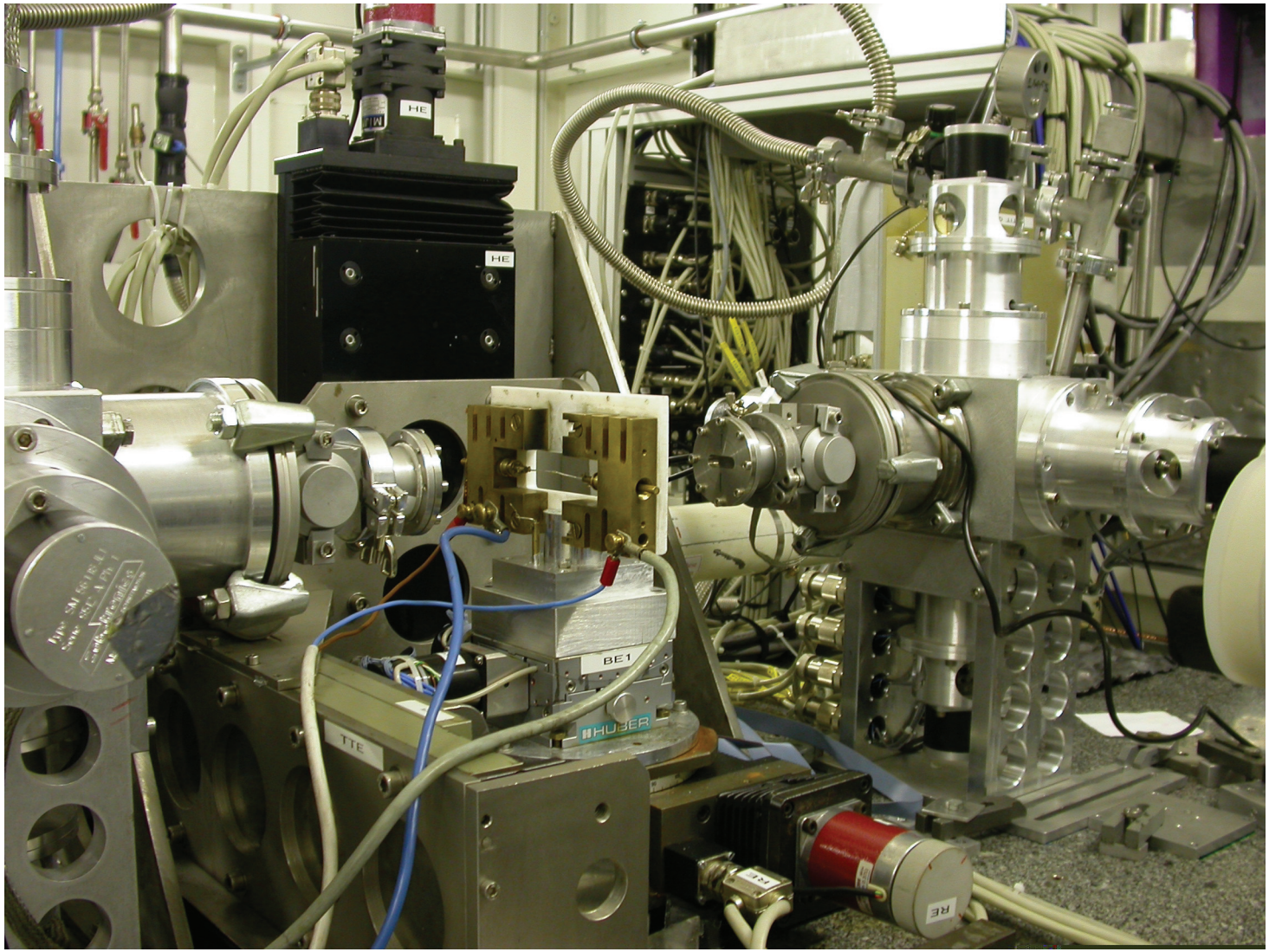


# Environnement échantillons : cryostat

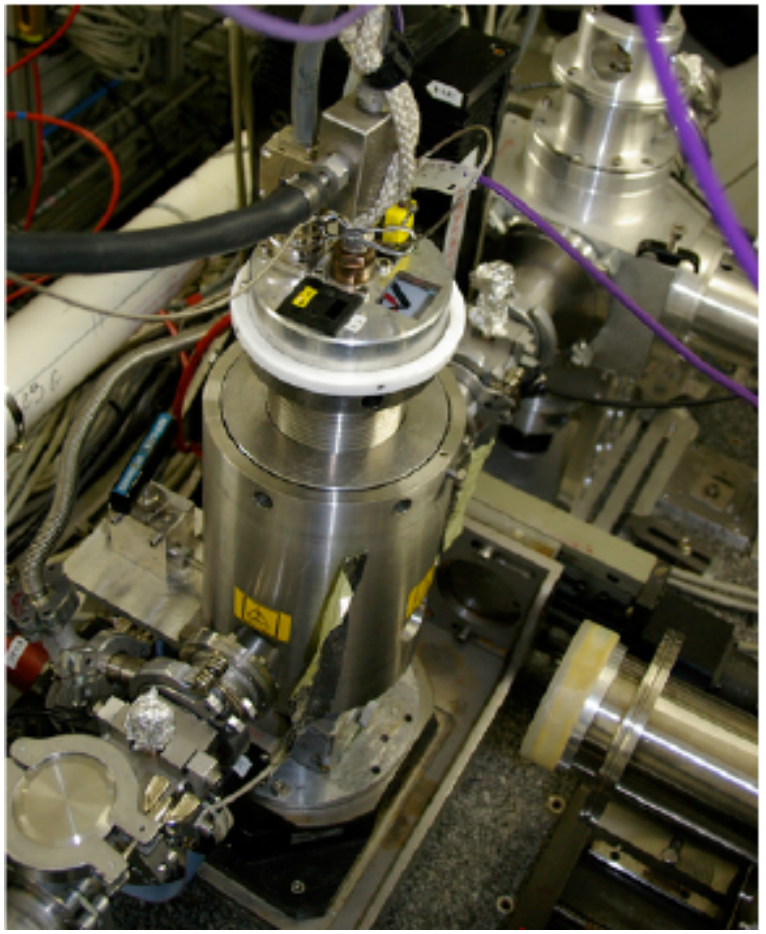


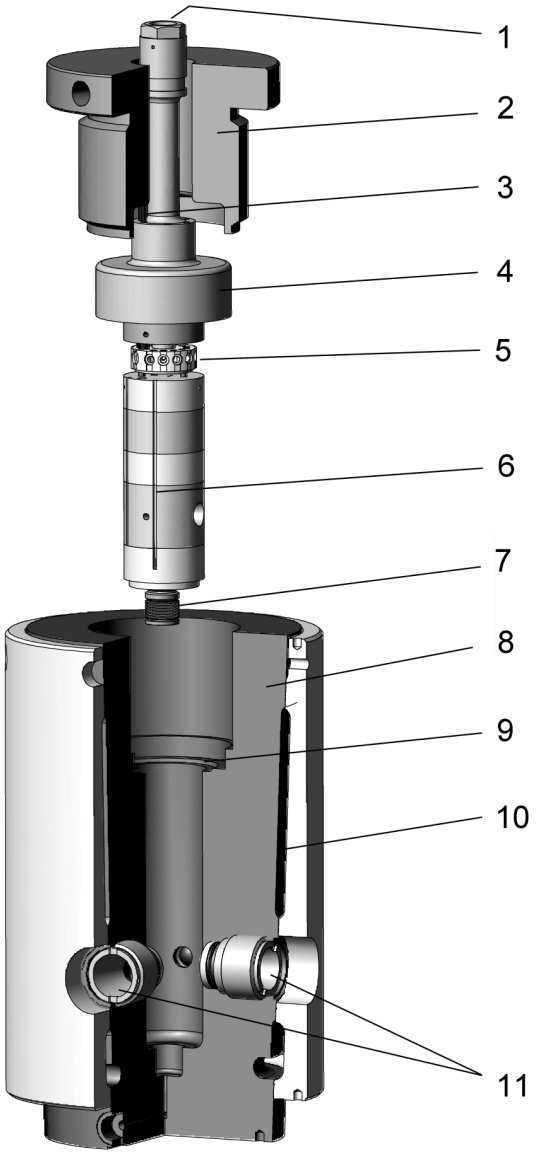
# Environnement échantillons : cellules in situ



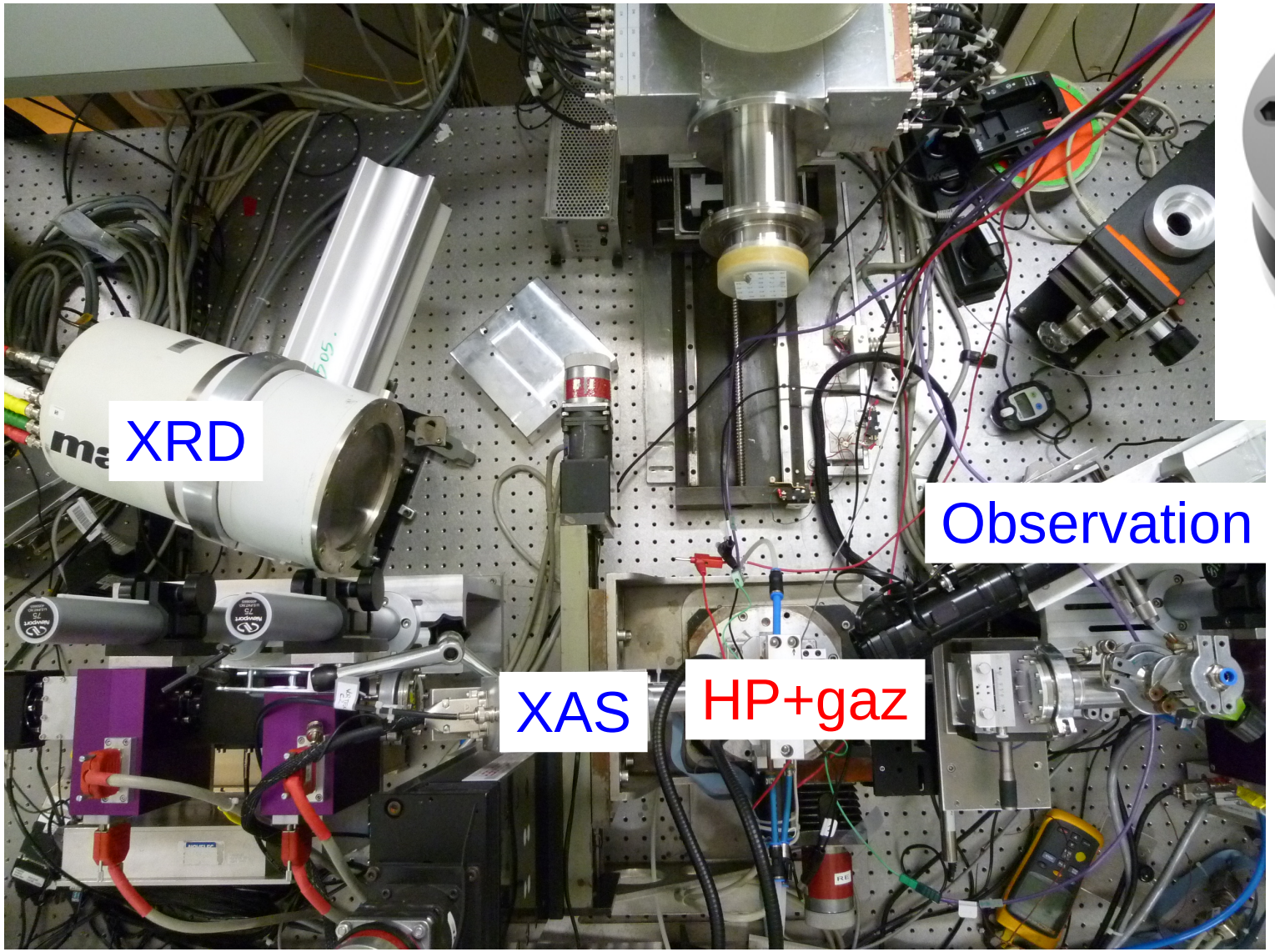

HE
HE
BE1
HUBER
TTE

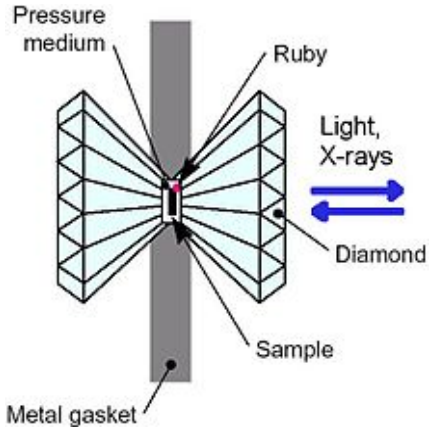
# Environnement échantillons : cellules in situ



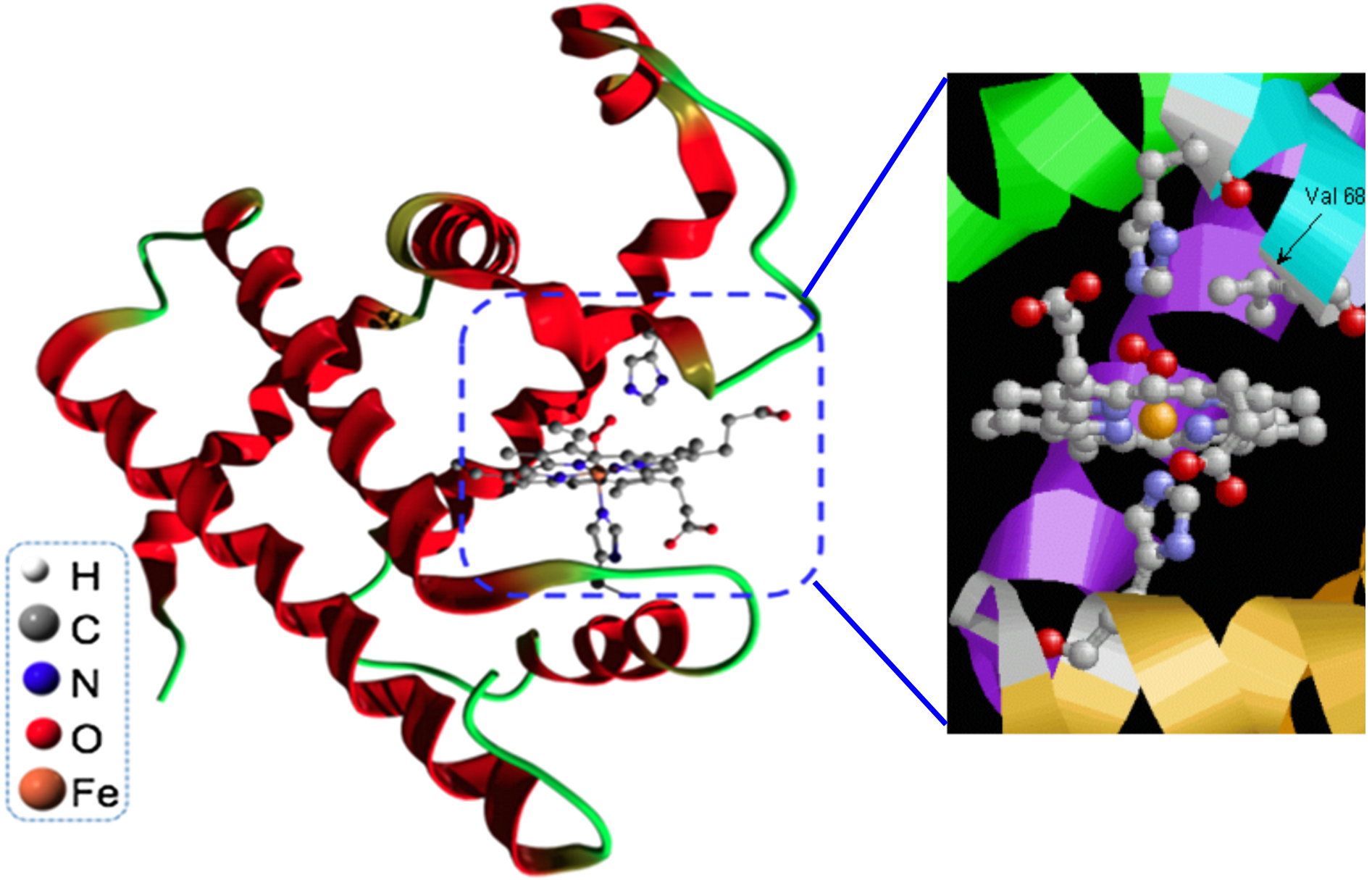


# Environnement échantillons : cellules in situ

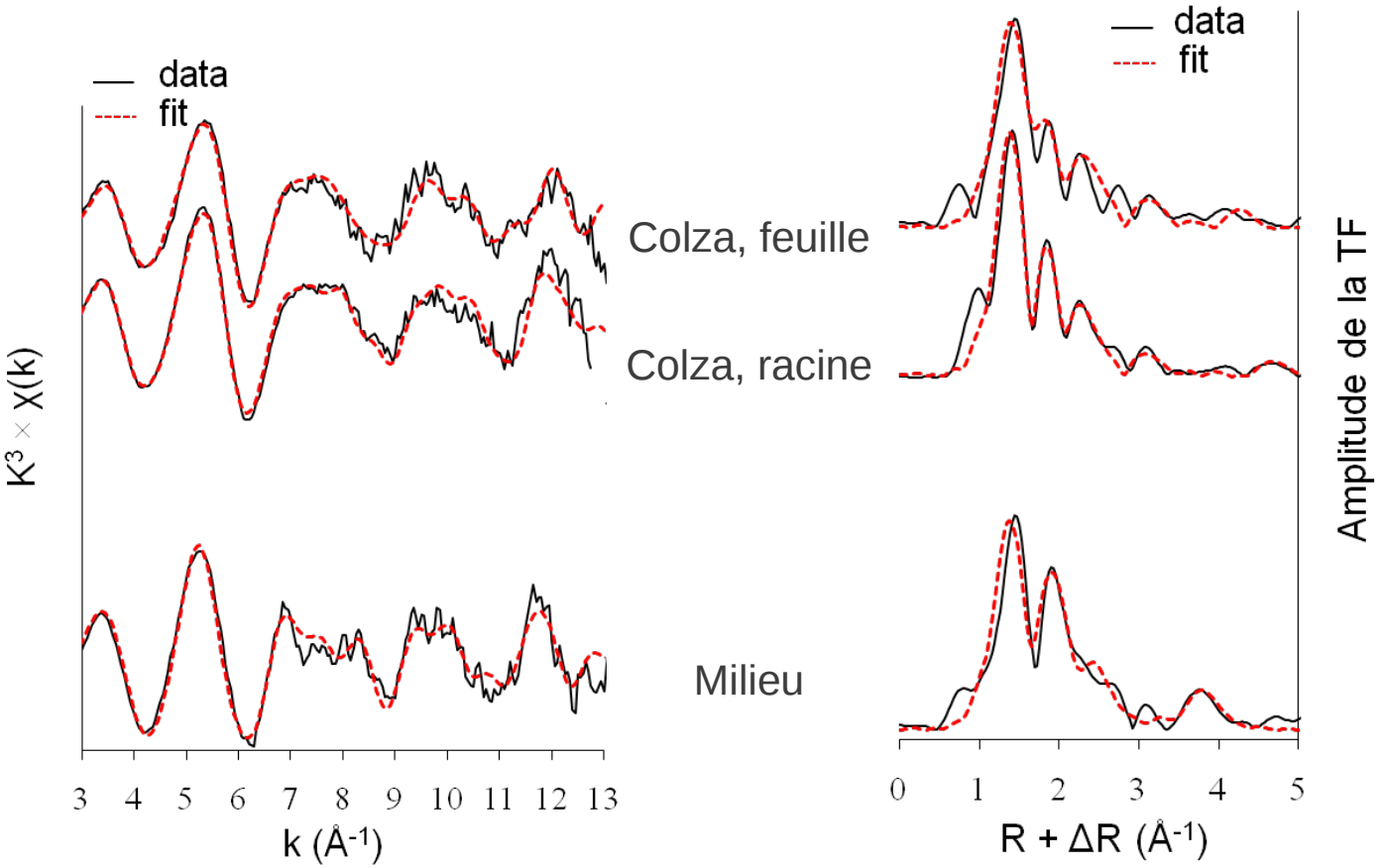


# Exemple : biologie



# Exemple : environnement

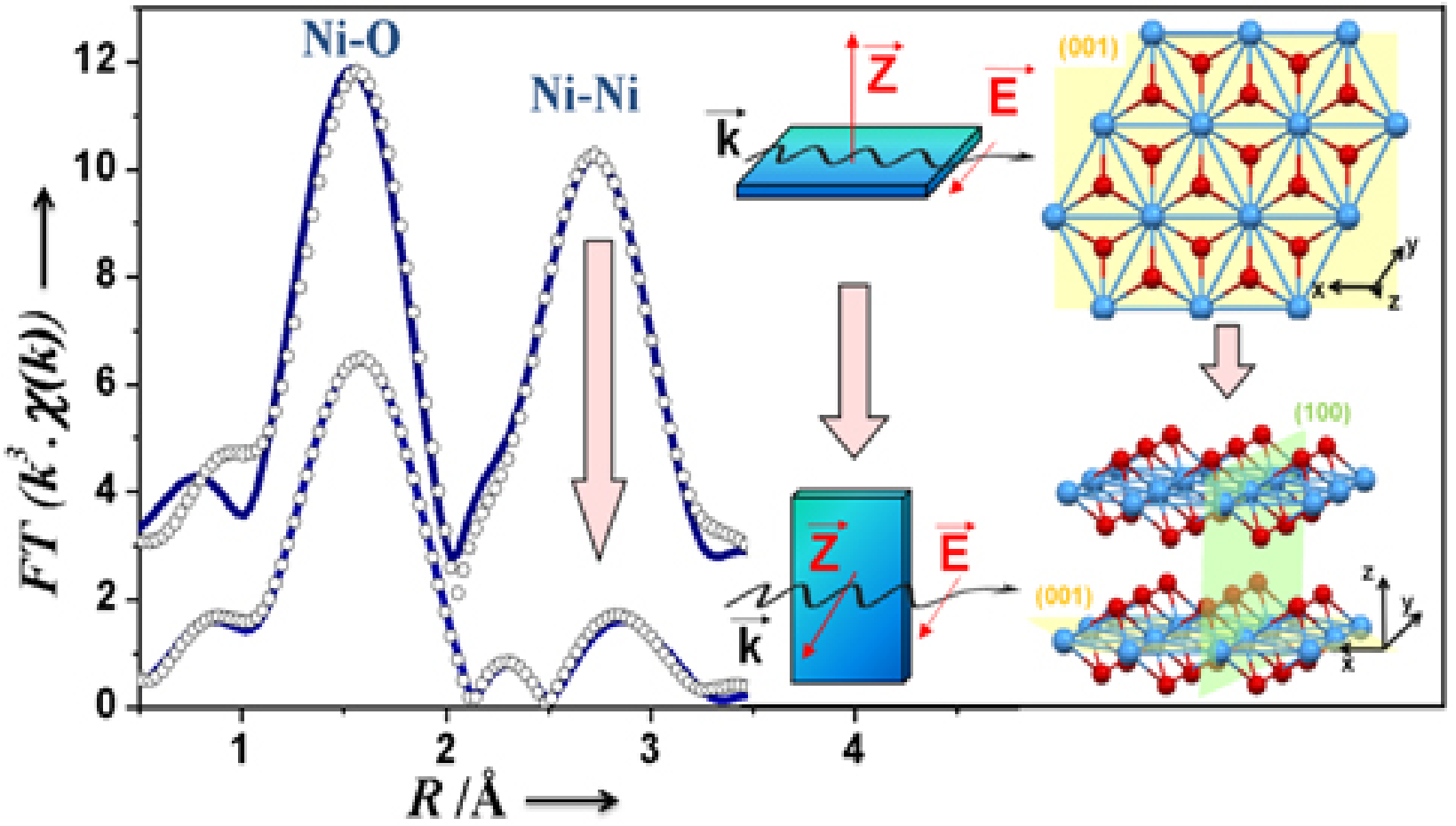



| | | |
|---|---|---|
| **Fit** : | milieu | 90% U-CX + 10% $UO_2^{2+}$ |
| | racines | 55% U-CX + 27% U-phosphate + 18% $UO_2^{2+}$ |
| | feuilles | 40% U-CX + 33% U-phosphate + 27% $UO_2^{2+}$ |

**Combinaisons linéaires**

Carrière et al., CEA Saclay.

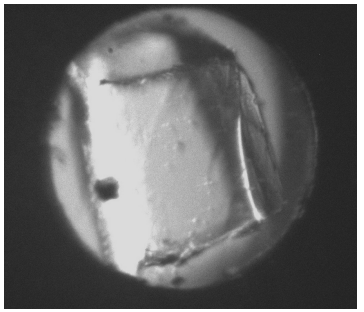
# Exemple : physique



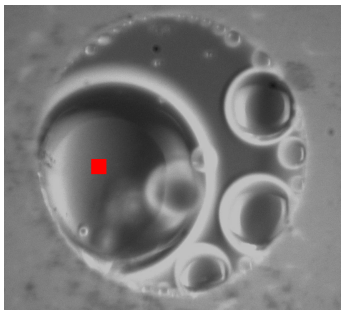

Tougerti et al. Ang. Chem. Int., 2012.

# Exemple : sciences de la terre

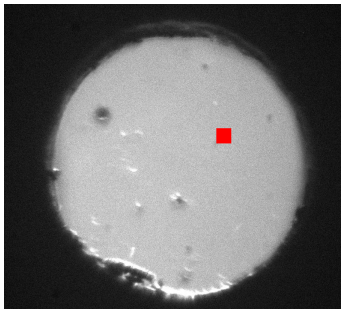
25 °C – 1 atm

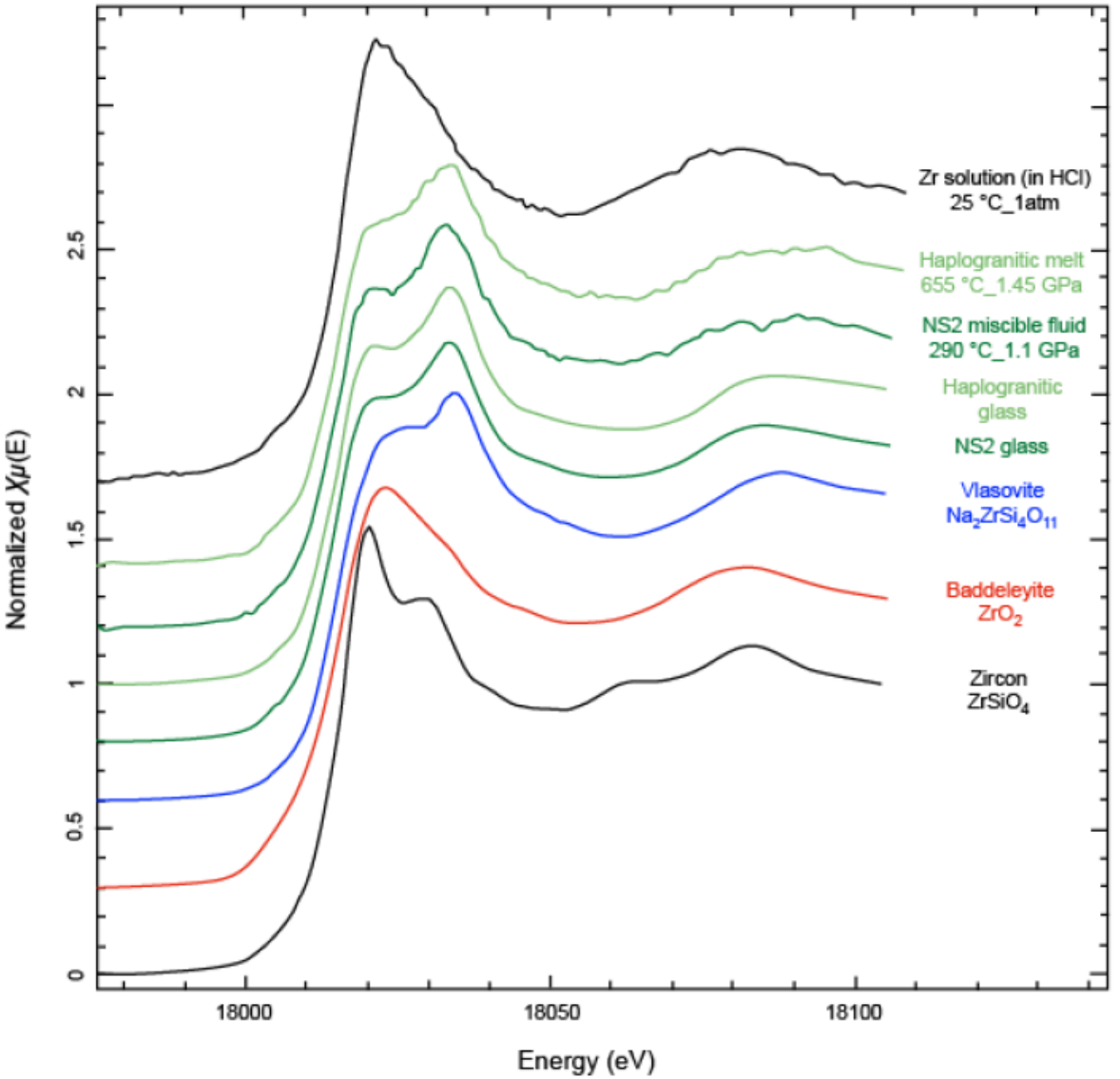


810 °C – 0.9 GPa



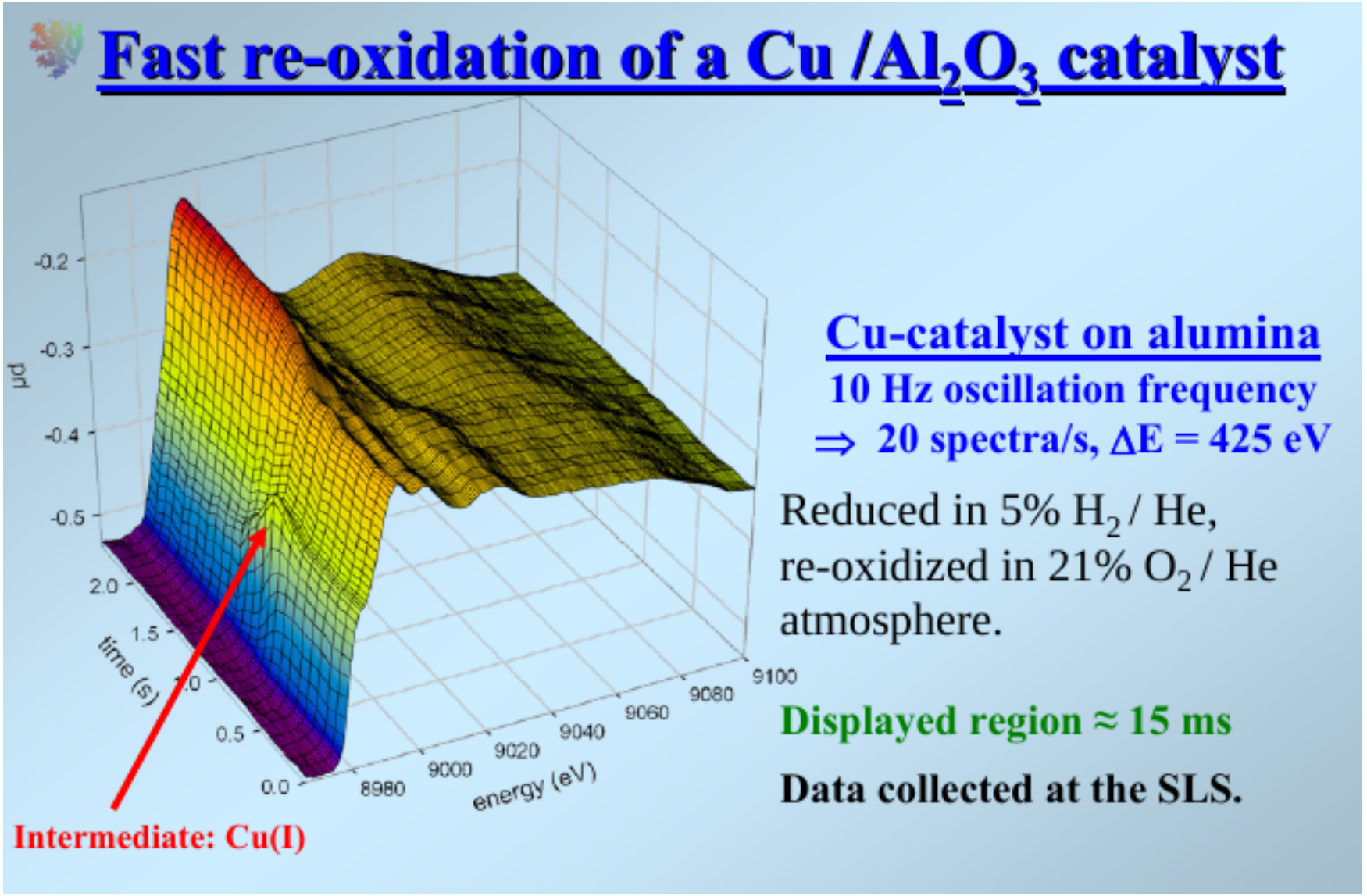
845 °C – 1.1 GPa






*Louvel, Malfait, Sanchez, ETH Zürich*

# Exemple : catalyse




*J.-D. Grunwaldt et al.,, TU Denmark*