

CU activities in 2022: LIBS experiments of JET samples at VTT/FZJ – plans and capabilities

CU: Pavel Veis, Alicia Marín Roldán



Typical JET2 materials for post-mortem analysis

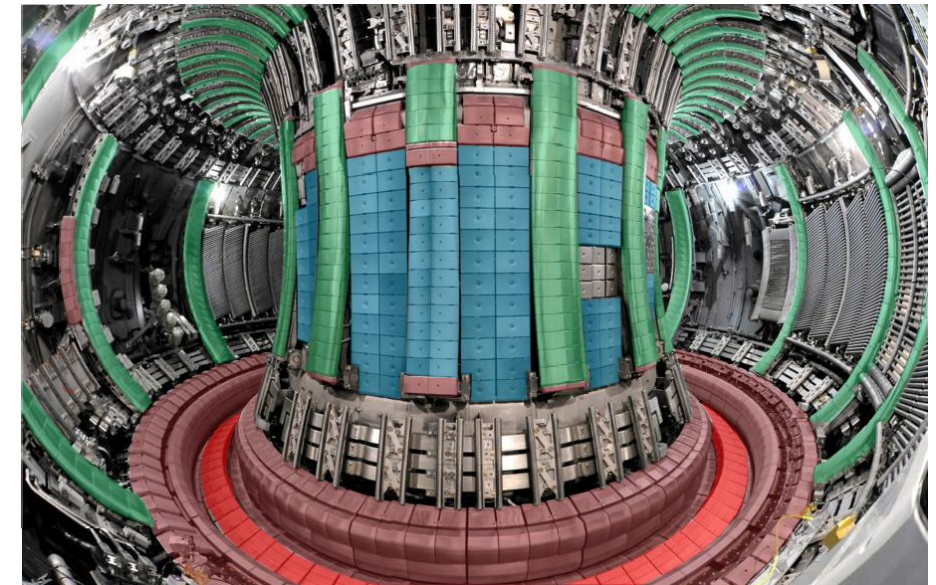


At VTT → Be containing samples

-  Bulk Be
-  Be coated inconel

At CU → rest of samples

-  W – coated CFC (If not loaded with T)
-  Bulk W



Typical JET2 materials for post-mortem analysis

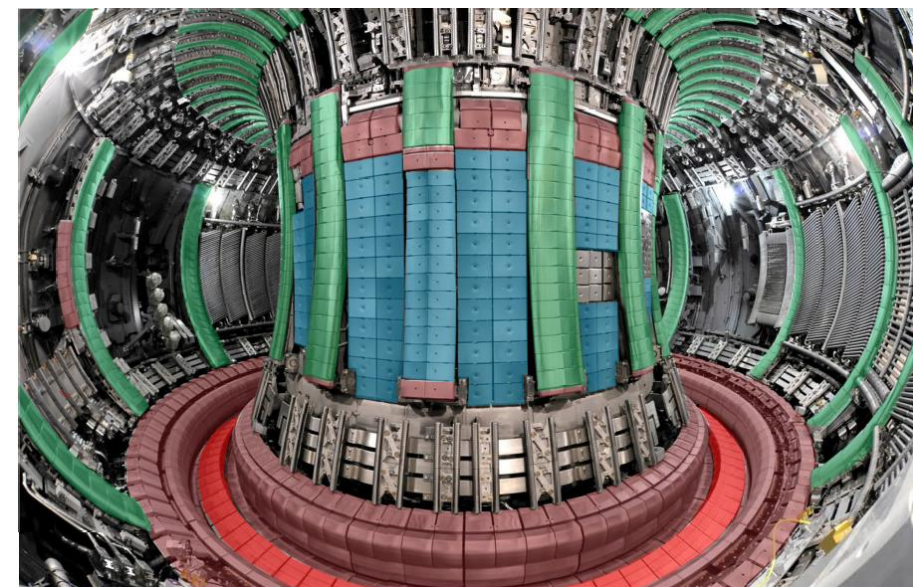
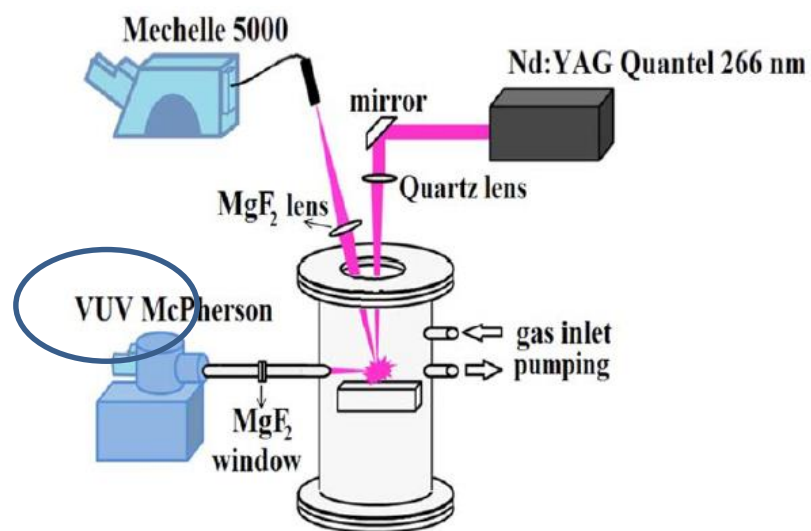


At VTT → Be containing samples

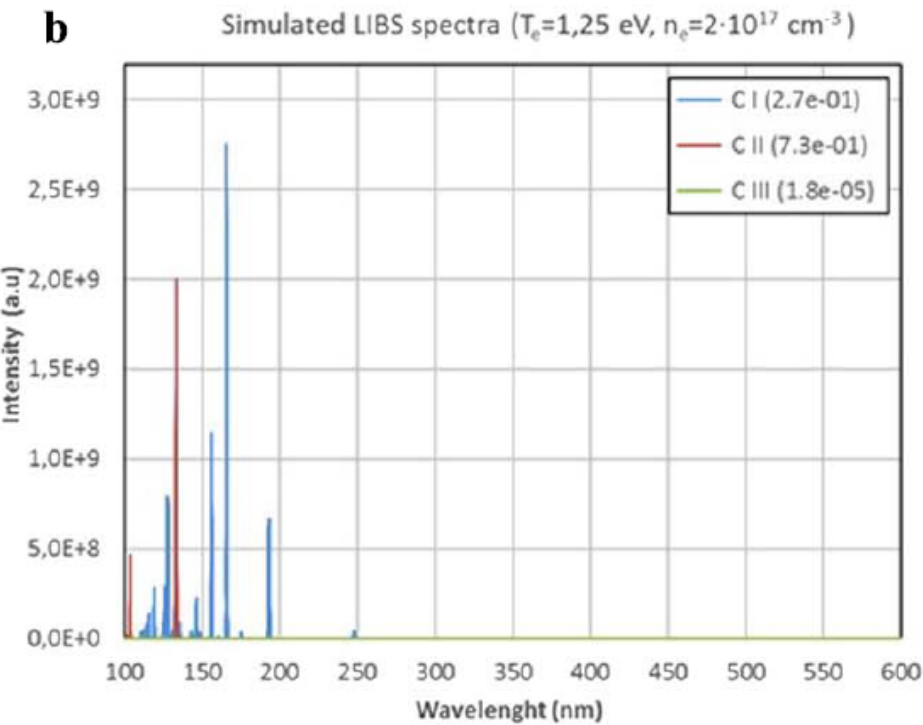
 Bulk Be
 Be coated inconel

At CU → rest of samples

 W – coated **CFC**
 Bulk W



Typical JET2 materials for post-mortem analysis

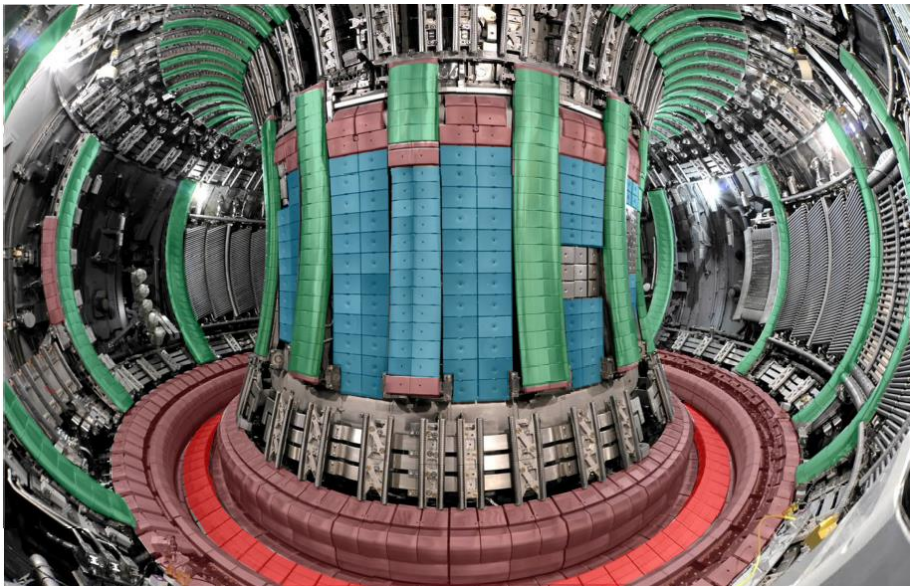
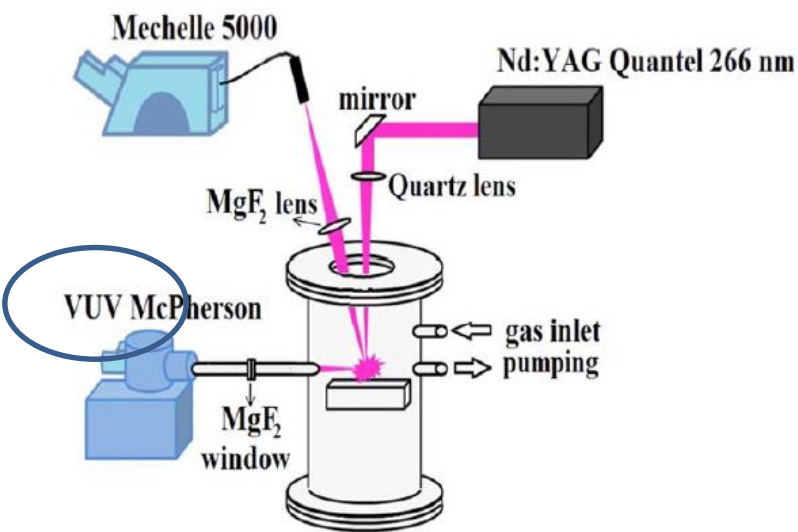


Bulk Be

Be coated inconel

W – coated CFC

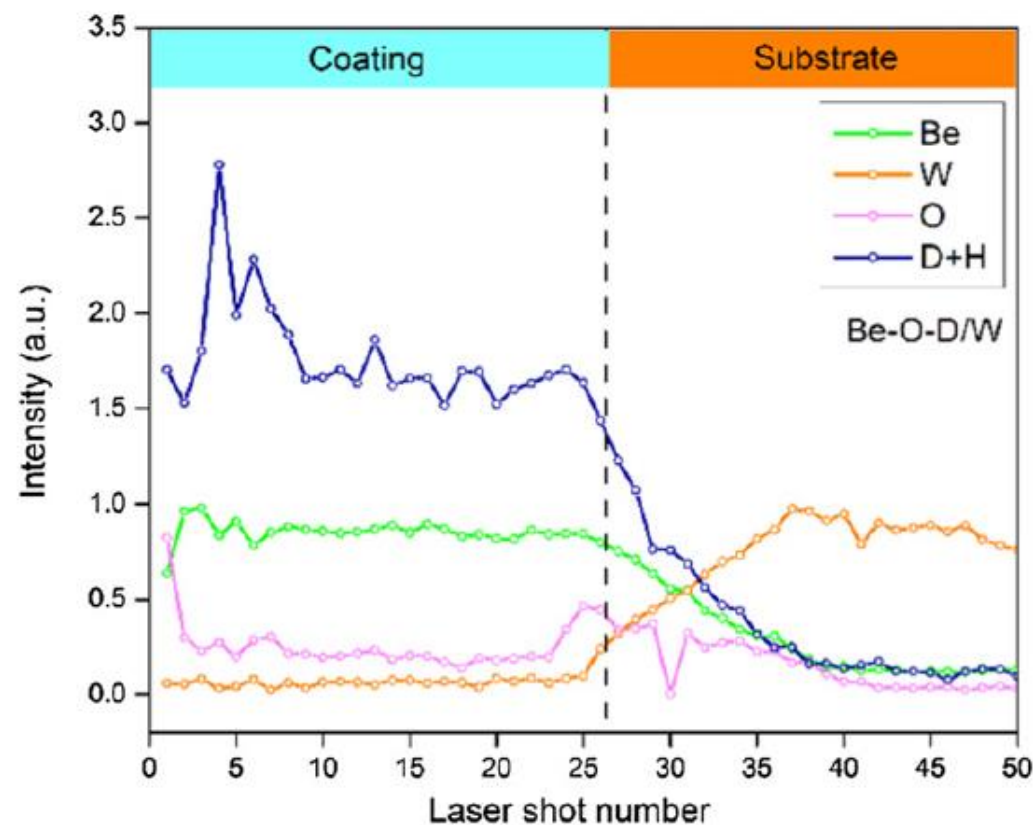
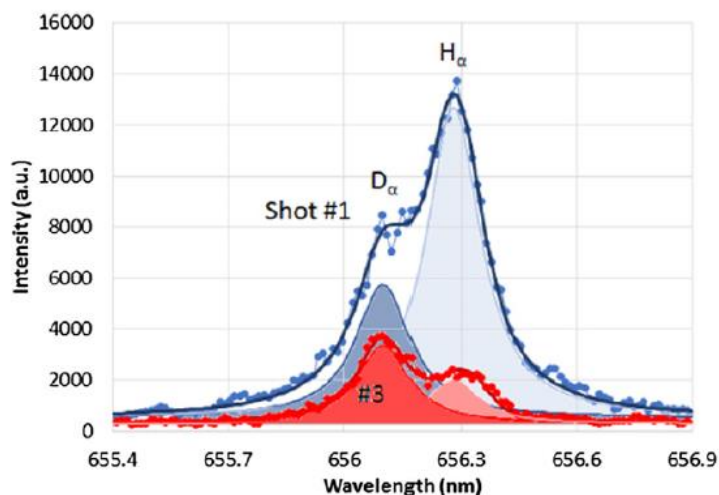
Bulk W



Analysis capabilities



- Depth profiling
- Quantification by CF-LIBS
- Fuel retention



Atomic percentages for Be, O, C, H, and D.

Sample	Be%		O%		C%			H%		D%	
	LIBS		LIBS		LIBS	TOF-ERDA	IBA	LIBS		LIBS	IBA
1	52.1		7.6		5.0	8.0	11.0	8.4		26.9	44.0
2	54.0		8.0		—	0.3	—	13.6		24.4	26.0
3	60.9		5.5		—	0.1	—	14.6		19.0	20.0
4	55.4		8.2		1.1	6.1	5.0	8.2		27.1	23.0



- VTT campaign this spring (other samples)
- More visits depending on availability
- Measure non-Be samples at CU depending on available samples