

Status of n_TOF

Laurent Tassan-Got
on behalf of the n_TOF collaboration

Magnet test & filter box

n_TOF Schedule 2017 ver. 1.7

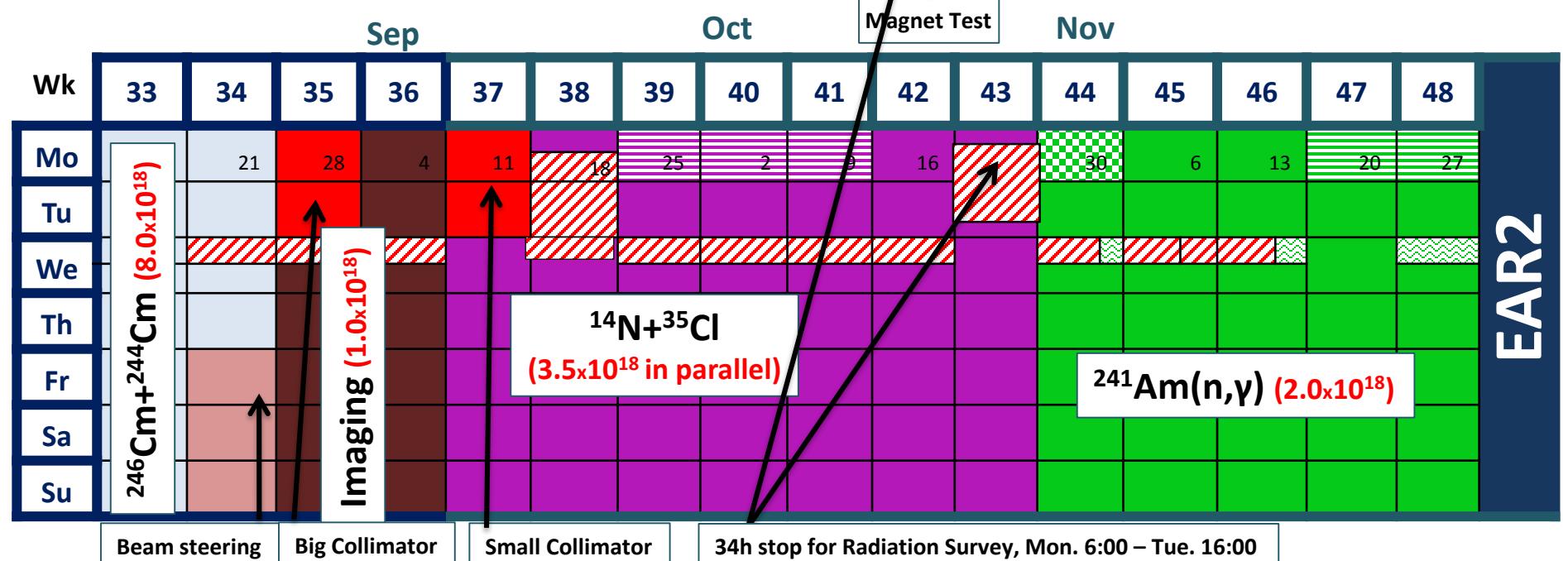
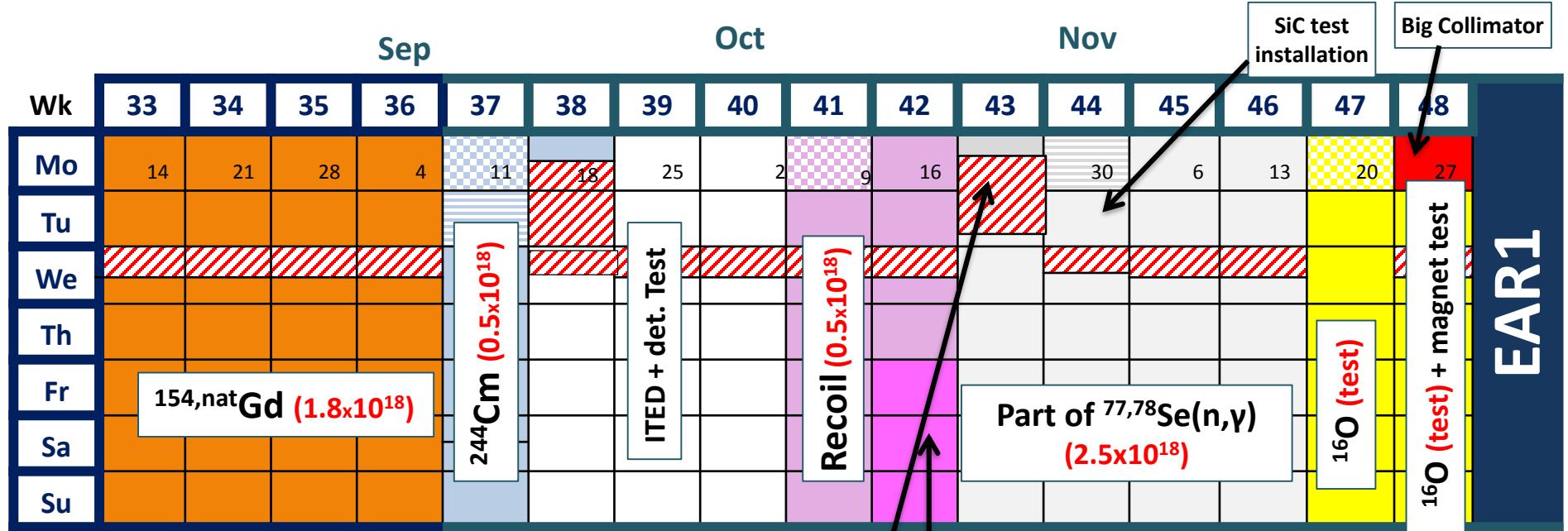
	May		June										July				Aug			
Wk	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32					
Mo	1	8	15	22	29	5	12	19	26	3	10	17	24	31	7	EAR1				
Tu																				
We																				
Th																				
Fr																				
Sa																				
Su																				

$69,71\text{Ga}$ (4.0×10^{18})

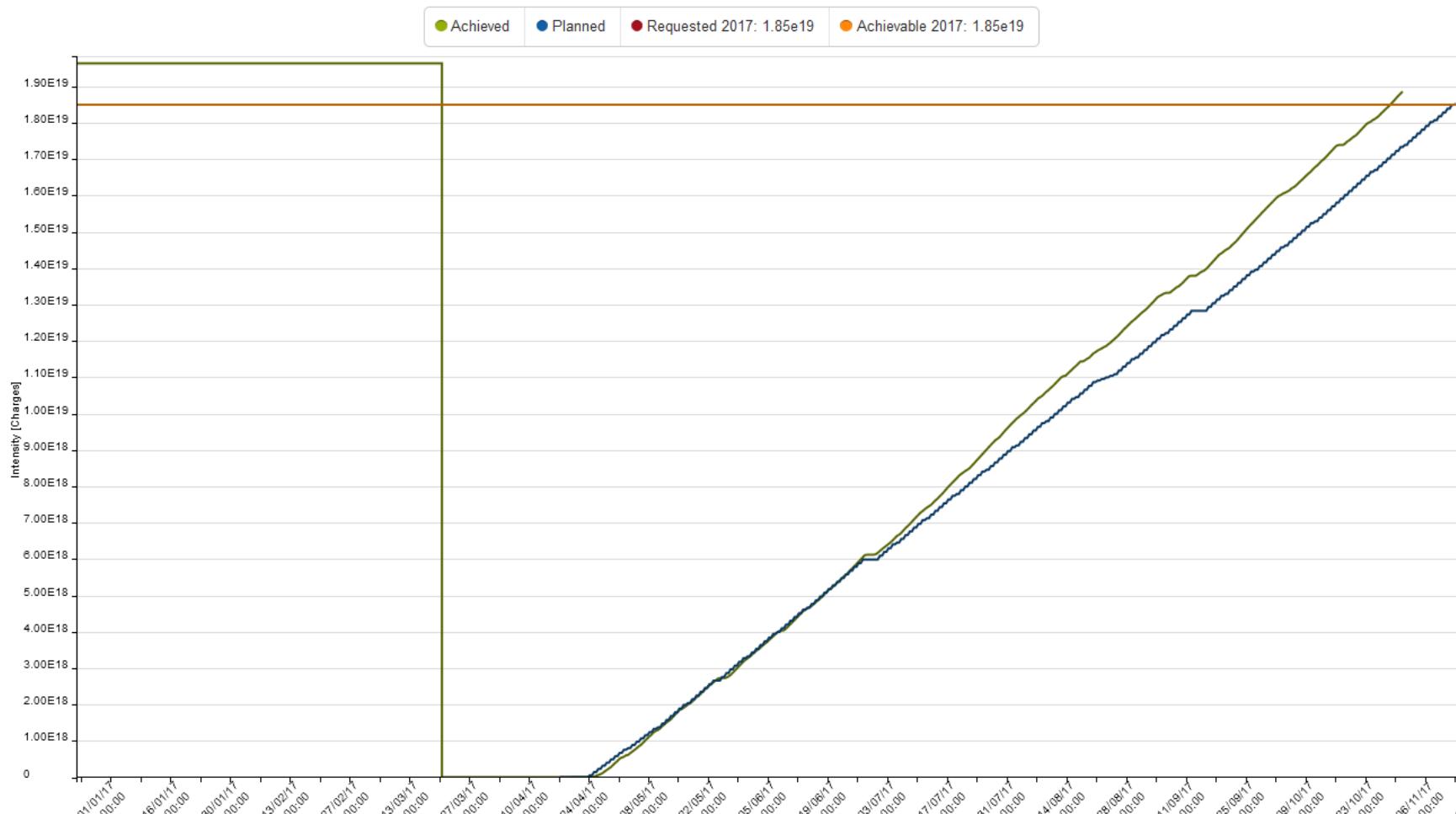
$89\text{Y} + 88\text{Sr}$ (3.5×10^{18})

	May		June										July				Aug			
Wk	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32					
Mo	1	8	15	22	29	5	12	19	26	3	10	17	24	31	7	EAR2				
Tu																				
We																				
Th																				
Fr																				
Sa																				
Su																				

$^{246}\text{Cm} + ^{244}\text{Cm}$ (8.0×10^{18})

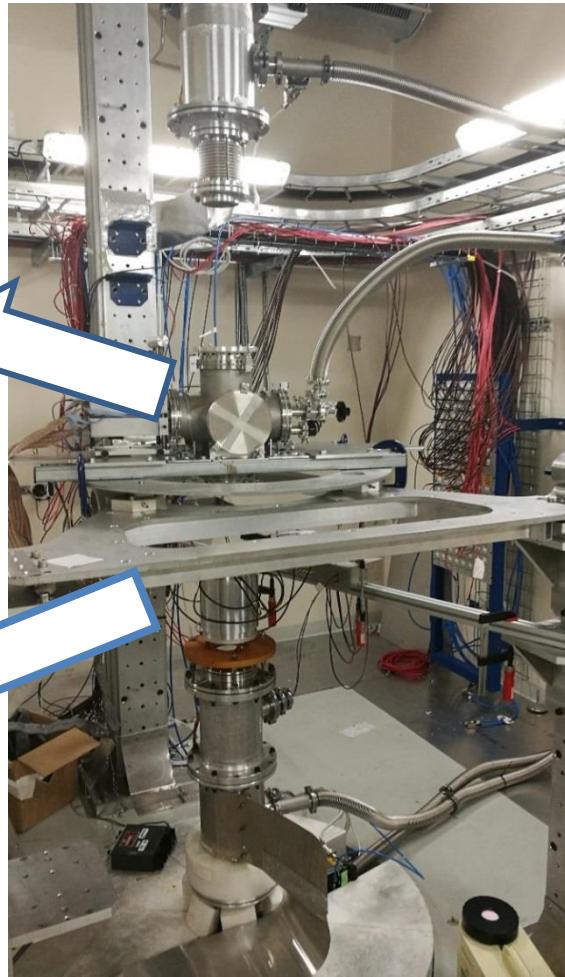
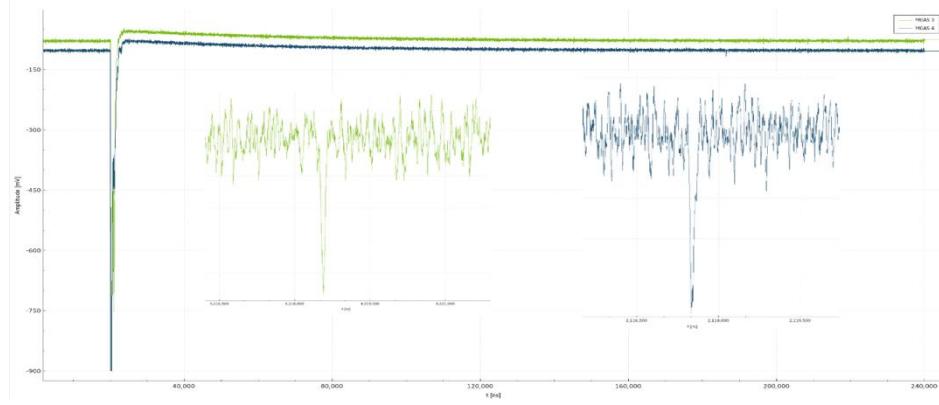
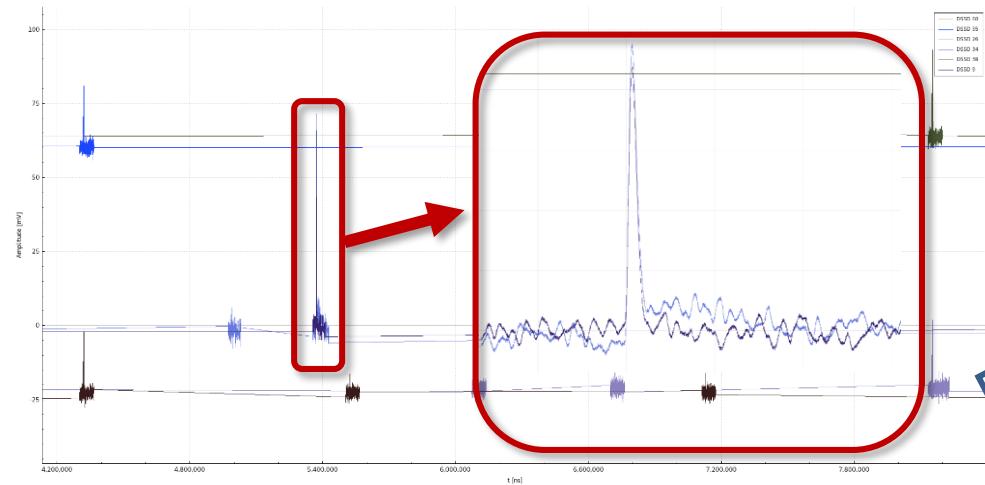


Protons delivered to n_TOF



$^{14}\text{N}(\text{n},\text{p})$ and $^{35}\text{Cl}(\text{n},\text{p})$ @EAR2, Silicon strips+ μ Megas

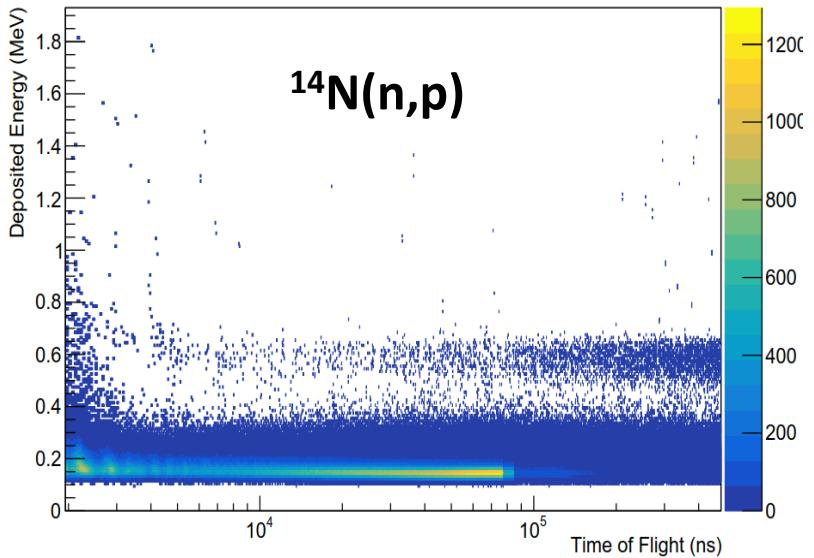
Courtesy of Marta Sabate



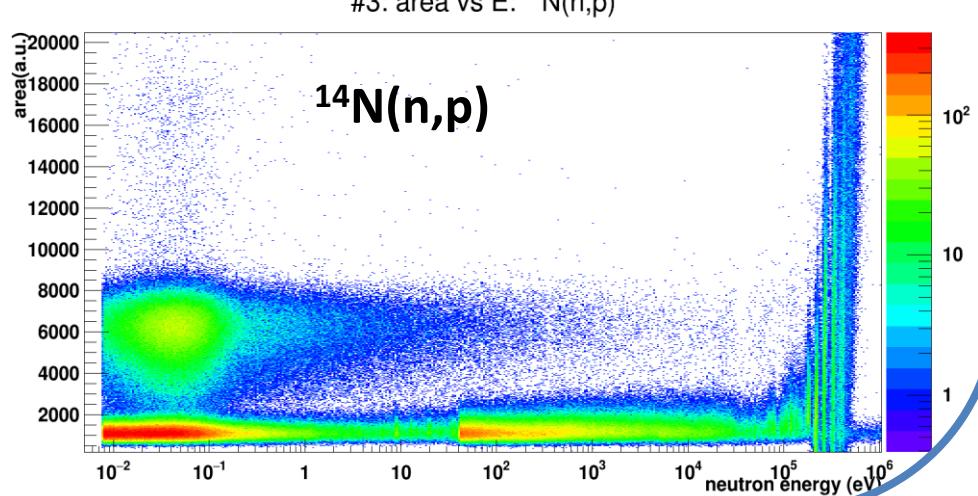
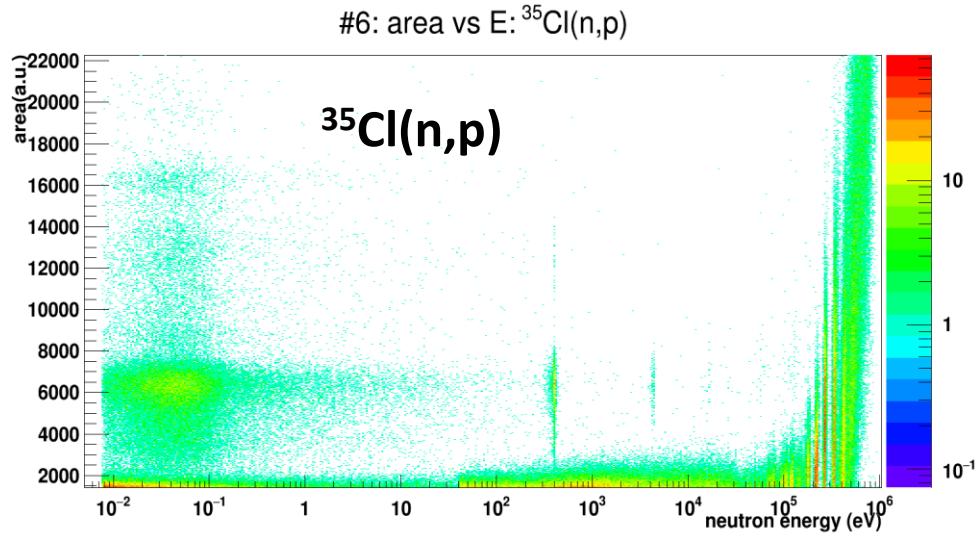
$^{14}\text{N}(\text{n},\text{p})$ and $^{35}\text{Cl}(\text{n},\text{p})$ @n_TOF-EAR2

μMGAS

Strip silicon

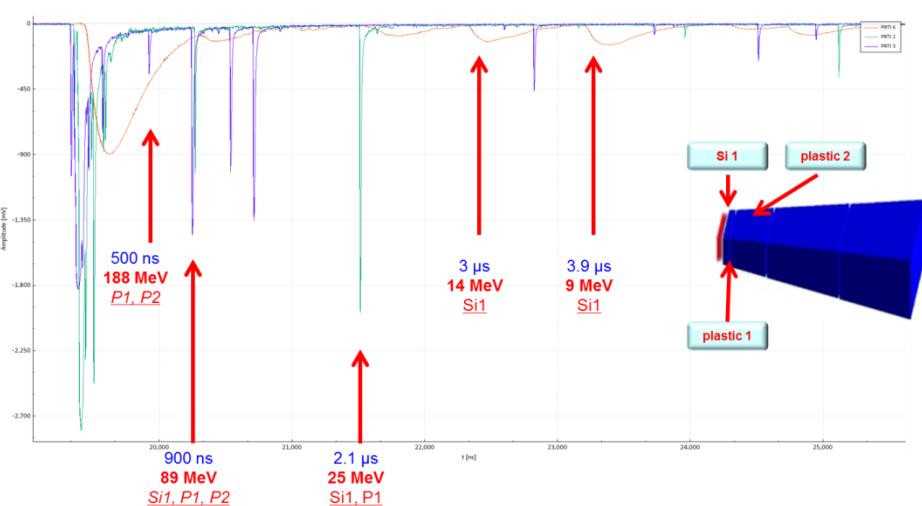
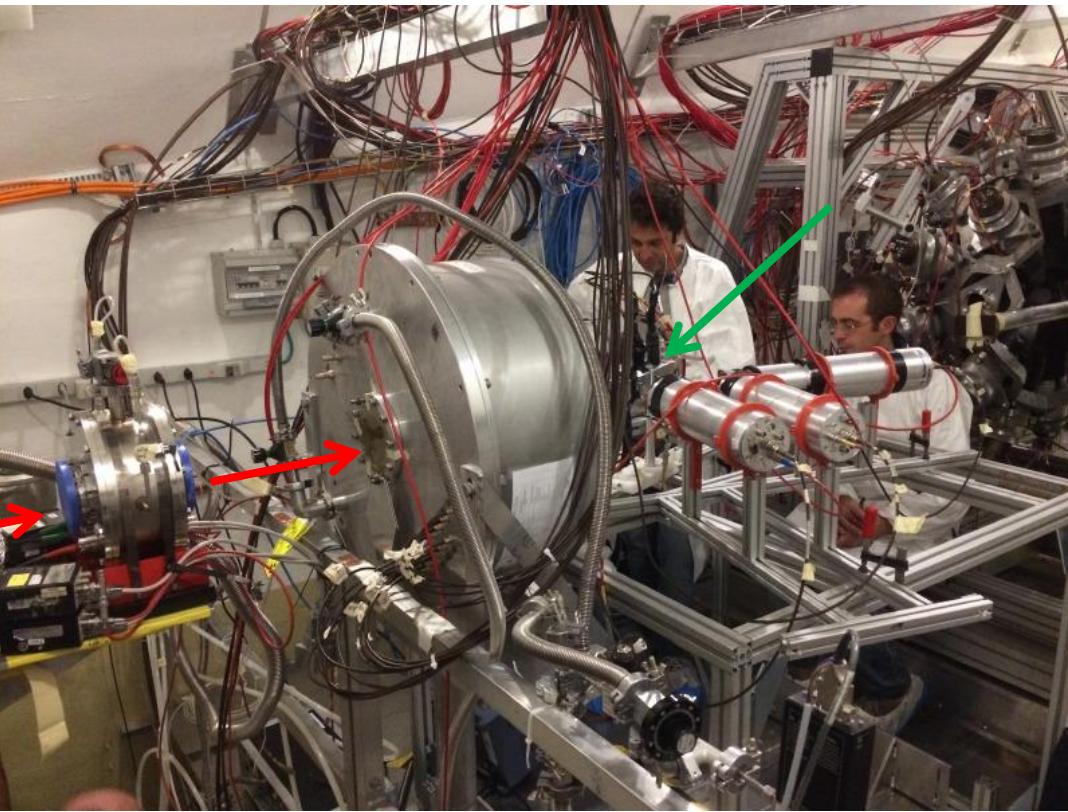
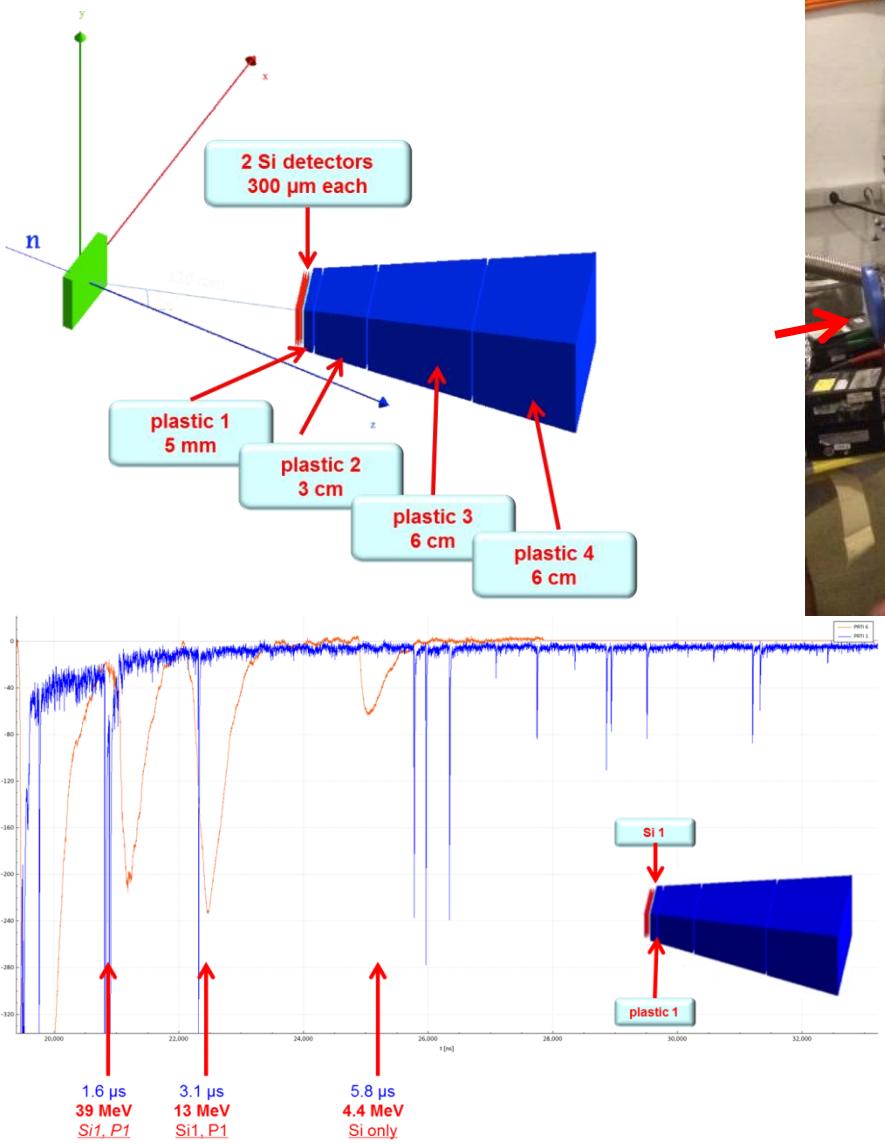


Preliminary



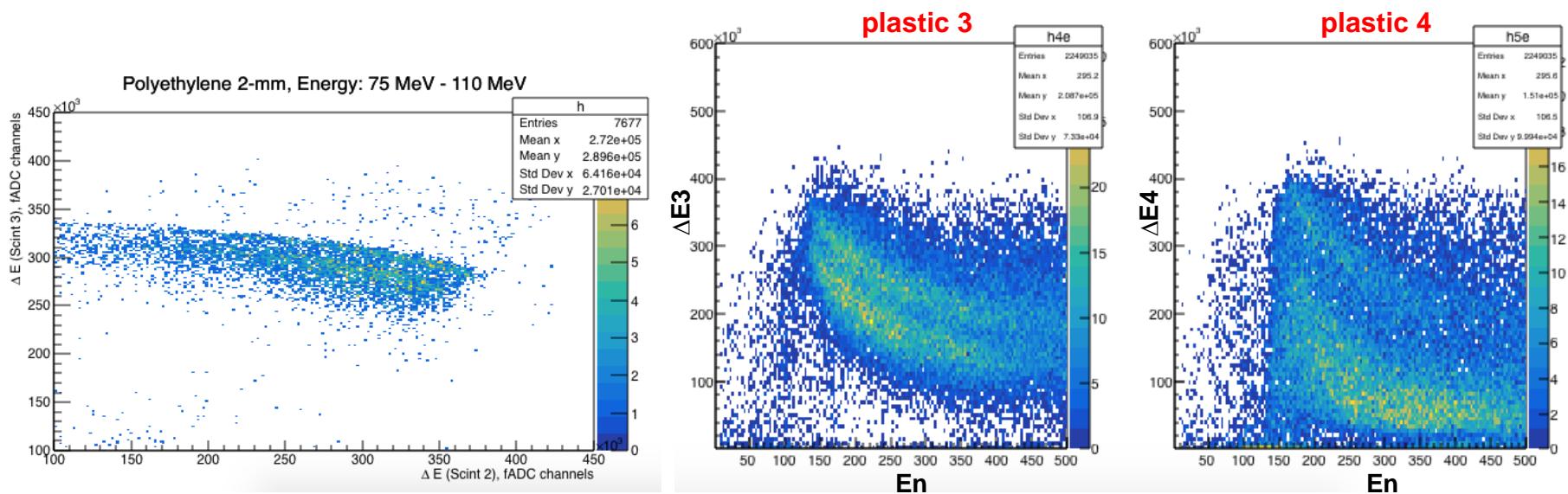
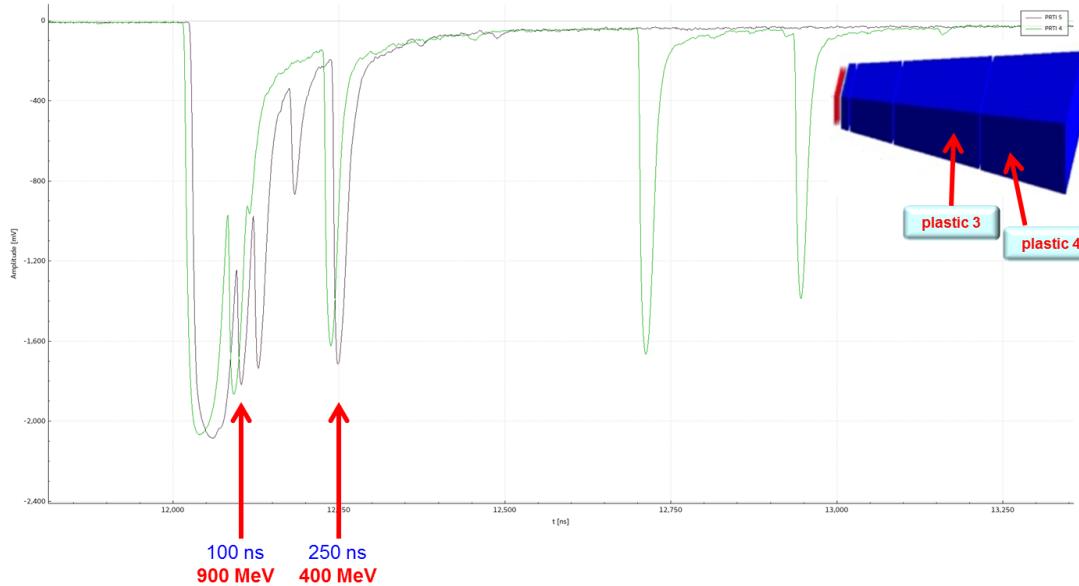
Proton recoil telescope test

Courtesy of Paolo Finocchiaro



Proton recoil telescope test

Preliminary

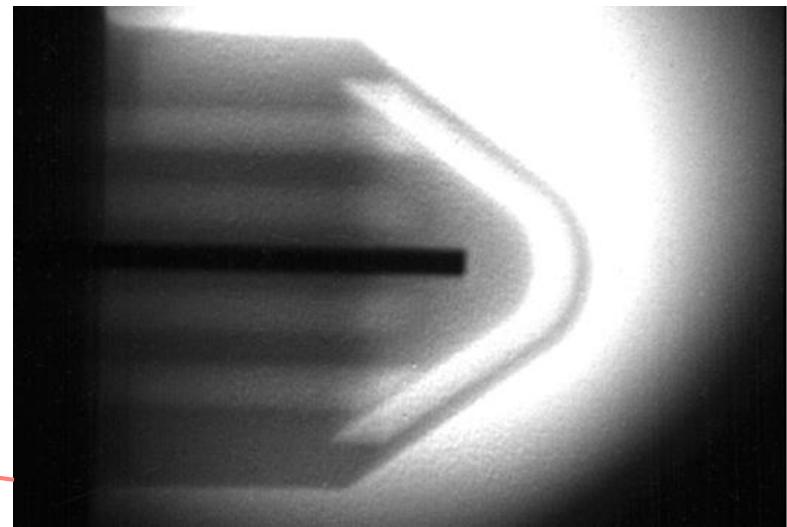
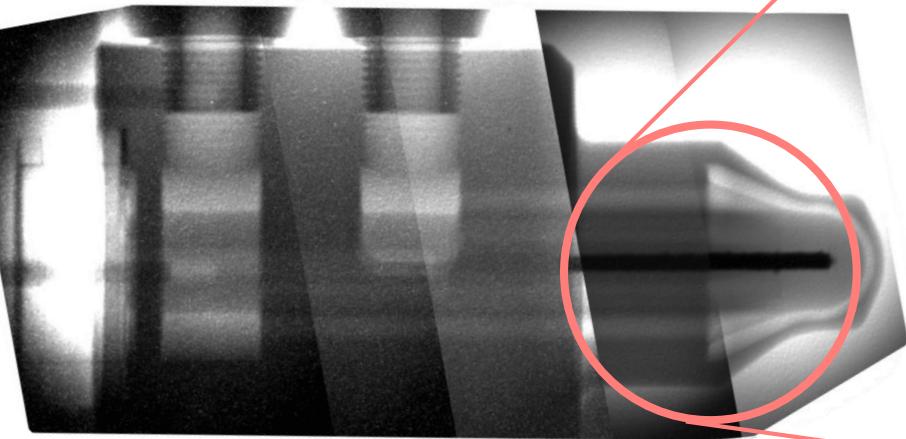
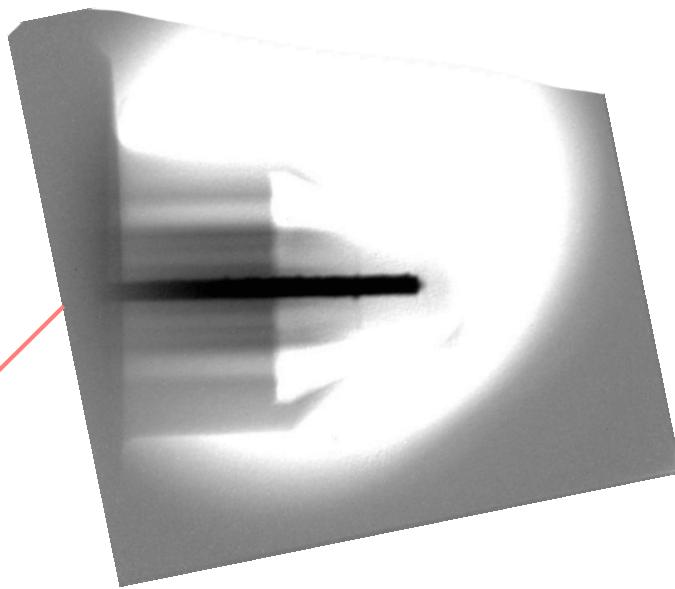
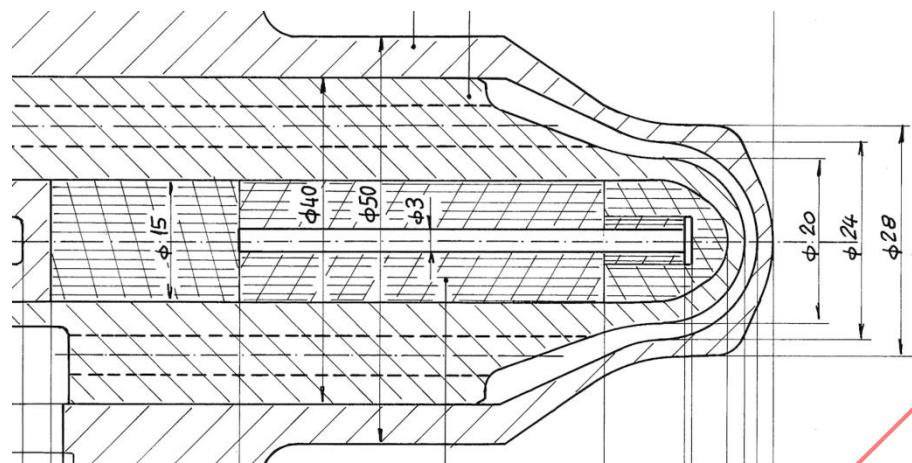


Neutron imaging

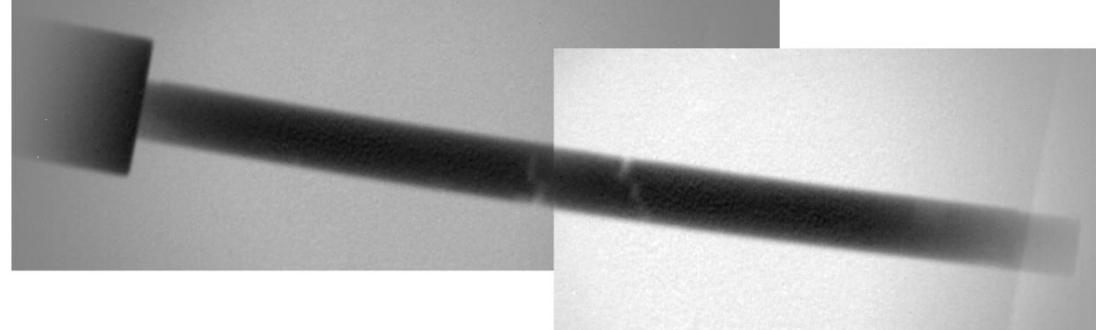
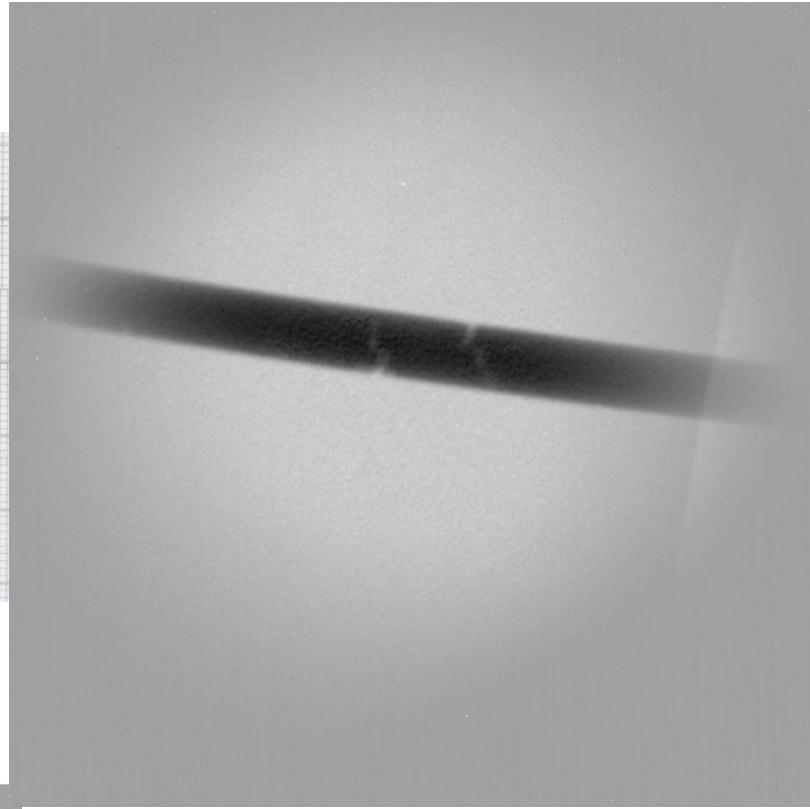
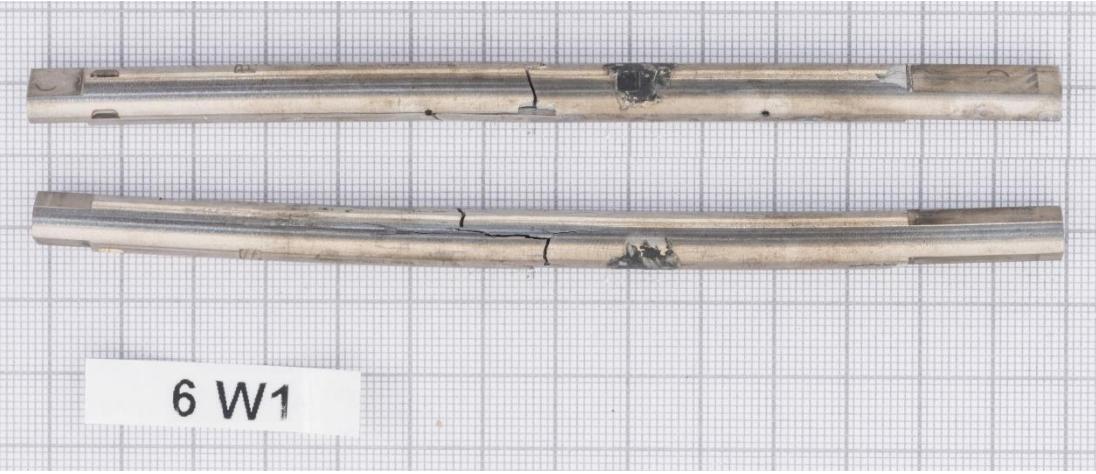
Courtesy of Federica Mингrone



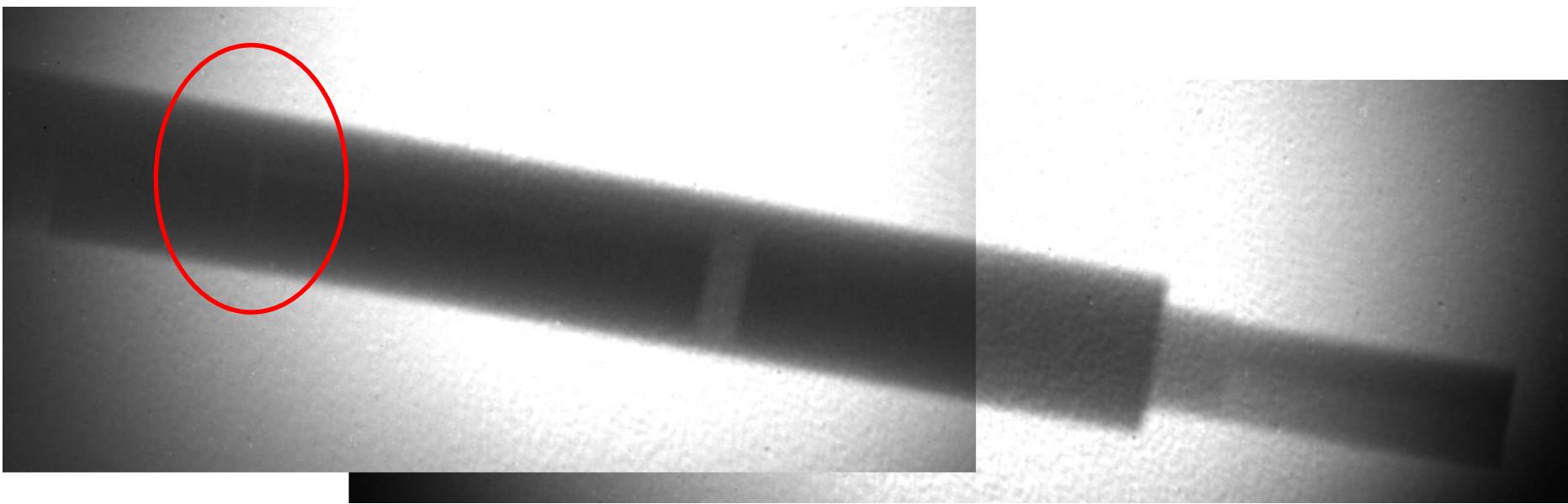
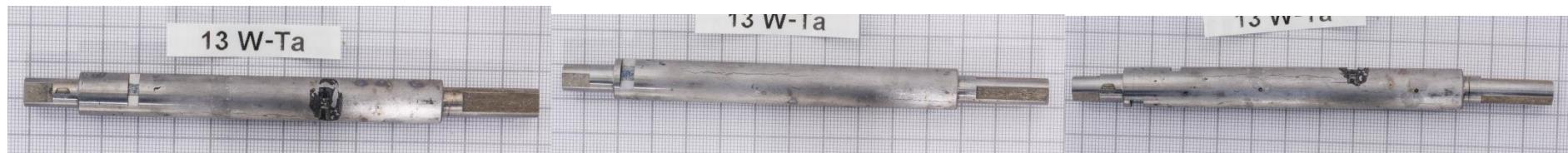
AD Target



HRMT 27 – 6W1



HRMT 27 – 13W Ta



Conclusion

- n_TOF benefited from the very good PS beam and from the 2 week extension which allowed to schedule experiments foreseen in 2018 ($^{77,78}\text{Se}$ and ^{241}Am capture).
- The $^{35}\text{Cl}(\text{n},\text{p})$ and $^{14}\text{N}(\text{n},\text{p})$ experiment gave the expected statistics for the resonances and the low energy part.
- The proton recoil telescope test proved to be insensitive to the γ -flash and it can identify and measure high energy particles up to GeV. The experiment of flux measurement will take place in 2018.
- The neutron imaging proved its ability to detect cracks and damage in irradiated samples. The good spatial resolution allowed to reveal internal cracks not visible externally.