



# **11T Dipole Models fabrication**

**11T Dipole Task Force Meeting #6**



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January 24<sup>th</sup> 2018

# OUTLINE

- Coil #120 winding
- Winding of coil #118
- Cables and magnet components status
- Activities on MBHSP102
- Conclusion

# Coil #120 winding

- Winding of coil #120 started on Friday January 12th
- Existing 927 winding procedures have been tuned to comply with special requests from LMF team (QA & winding procedures harmonization)
- Coil winding has been completed on Monday 22<sup>nd</sup> and the coil cured from Tuesday 23<sup>rd</sup>.
- Reaction mold assembly will start on Wednesday 24<sup>th</sup>.
- Starting of coil #120 heat treatment is scheduled on January 29th in 927 furnace

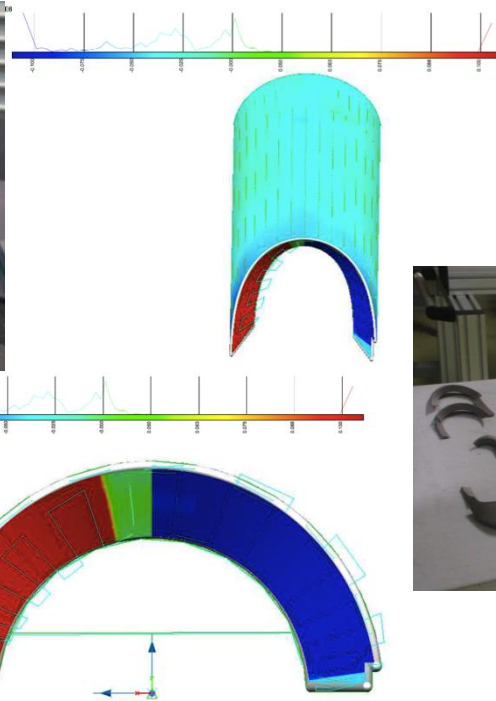
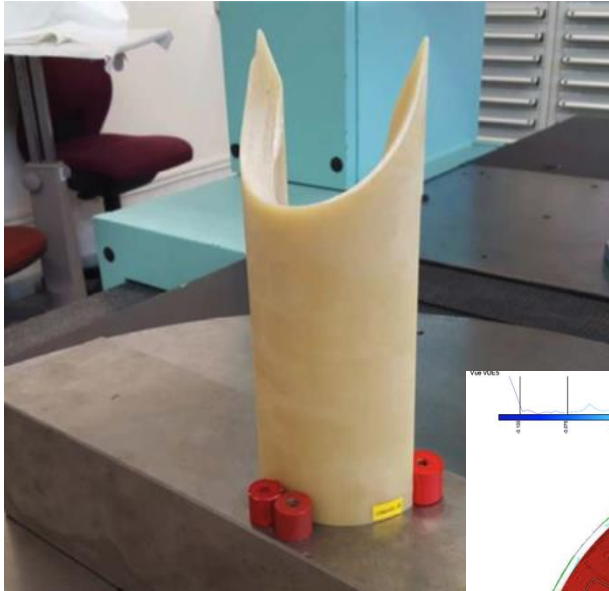


# Coil #118 winding

- Coil #118 will be the next coil to be wound
- The insulated cable has been delivered January 17th
- Coil winding operation start scheduled on January 29th
- This coil will be sliced for collaring tests and has the highest priority
- As this coil will not be assembled in a magnet, NbTi powering leads splice and Vtaps insertion during winding can be abandoned to reduce coil fabrication time
- Nevertheless a standard trace will be used to guarantee a complete coherence with coils to be tested in the next short model magnets
- Coil #118 will be reacted in 180 furnace to minimise the required fabrication time (coils #120 & #119 will be reacted in 927 furnace)
- Reaction furnace in 180 should be ready for coil #118 heat treatment on January 16<sup>th</sup>

# Coil component status

	Bobinage												Preparation reaction			Impregnation							
	Cable isolé	Cle	espaceur	fibre isolation pole	fibre isolation espaceur	fibre isolation cale	fibre isolation interlayer	cale n°1	cale n°2	cale n°3	cale n°4	cale n°5	Mica plaque de base	Mica mandrin	Mica sous toile inox	Saut de couche G11	Loading plate	fibre de verre impregnation Ø inner	fibre de verre impregnation Ø outer	cable NbTi	Traces ordered	Traces received	Endspacer/splice block G11
coil 118	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	W3	ok	ok	ok	ok	ok	ok	ok		OK	stock 180
coil 119	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok		W9	stock 180
coil 120	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok		OK	OK
coil 121	TBC	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok		W9	stock 180
coil 122	ok	ok	W3	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok	ok		W9	stock 180



4 sets of G11 end-saddles delivered and measured



5 sets of 3D printed metallic spacers delivered

# Disassembly activities on MBHDP102

- Transport from SM18 to 927.	23/11/2017	
- Magnetic measurements at room temperature.	28/11/2017	Lucio Fiscarelli
- Strain gauges measurements.	28/11/2017	Philippe
- Electrical tests.	01/12/2017	Francois-Olivier
- Removal of coils interconnection and instrumentation wires.	04/12/2017	Hugues, Nicolas
- Transport to 180.	04/12/2017	Gregory
- Shell cutting, disassembly of end plates, yoke and two collared coils.	19/01/2018	Frederic's team
- Transport to 927 of the 2 collared apertures.	24/01/2018	Frederic's team
- Strain gauges measurements of collared apertures.		Philippe
- Magnetic measurements at room temperature.		Lucio Fiscarelli
- Geometrical measurements of collared coils.		Salvador
- Decollaring.		Hugues, Nicolas, Ricardo and Philippe
- Visual inspection of magnet components.		Hugues, Nicolas, Ricardo
- Coils visual inspection, geometrical and electrical measurements.		Hugues, Nicolas, Francois-Olivier, Ricardo and Salvador
- Collars geometrical measurements on larger and smaller coil size contact areas.		Salvador
- Some coils will be cut to check the degraded areas (broken filaments).		

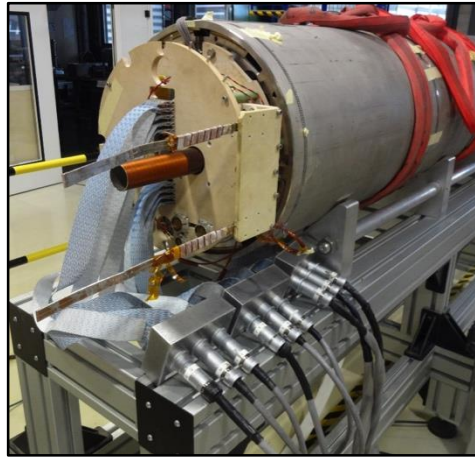
The activities are followed by Ricardo Paz  
A detailed report is being produced

# On going work

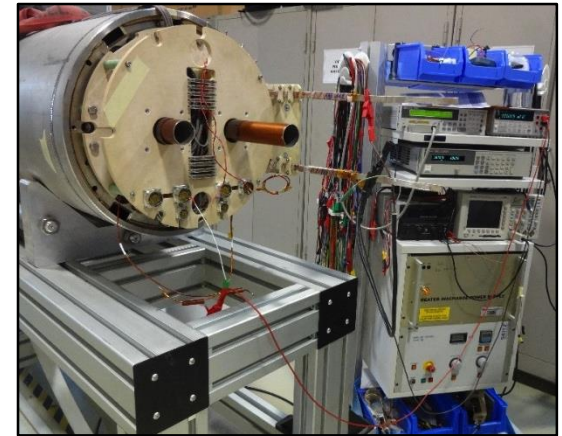
## 1) Magnetic tests



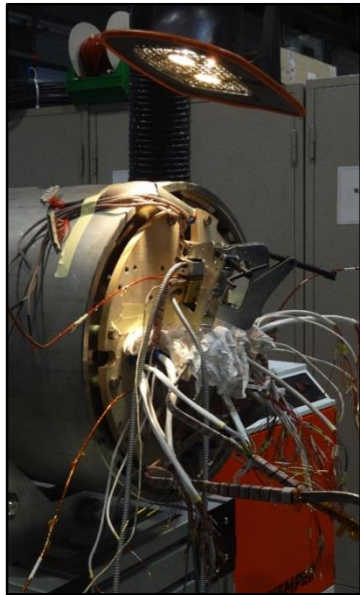
## 2) Strain Gauges: No changes from SM18 test.



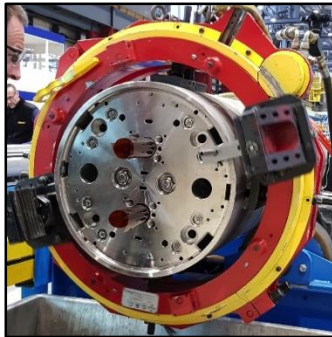
## 3) Electrical tests



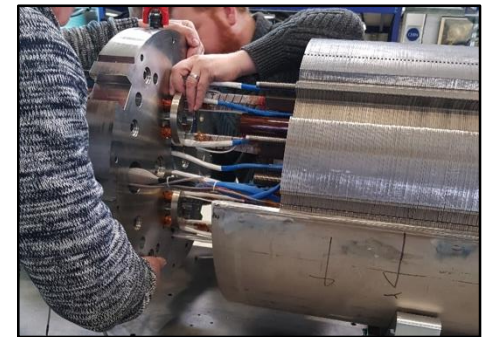
## 4) Removal of coils splice.



## 5&6) Shell and end-plates cutting.



## 7) End plates removal



## 9) Collared-coils removal → Ready for transport to 927

Courtesy R. Paz

# Conclusions

- Coil #120 winding completed
- Heat treatment will start next week
- Cable and components for coil #118 available in 927
- Winding of coil #118 will start on Monday 29th
- Coil #118 will be ready for collaring tests on W16
- All magnet components for 2 single aperture assemblies will be in stock by spring 2018
- The second magnet will be tested after summer holidays

Thank you for your attention