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cea

saclay

# Status of CEA activities on MQXC prototype development

M.Durante

CEA Saclay - IRFU - SACM – LEAS  
SAFIRS – Triplets NbTi

# What has been done since last annual meeting

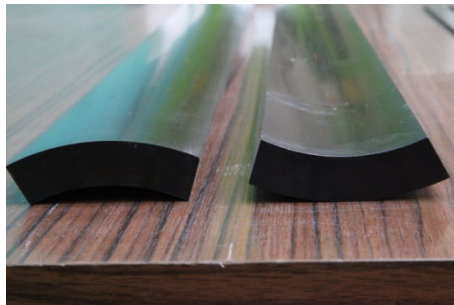
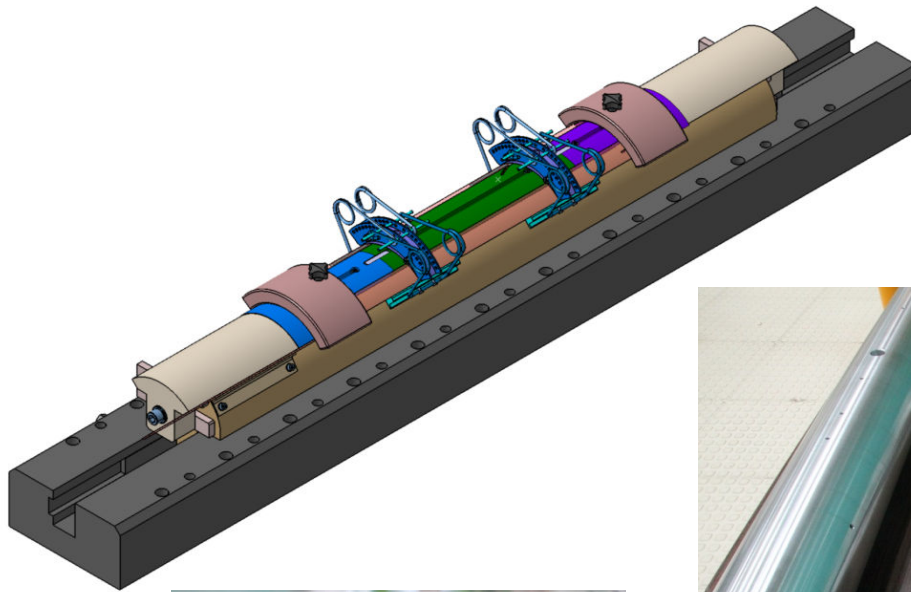
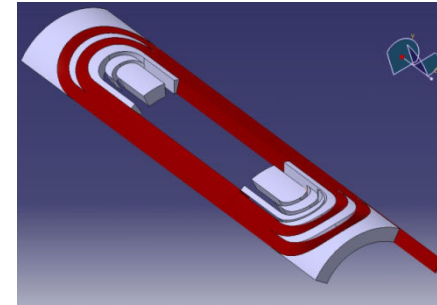
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- From April to July 2009, model tooling design, for 4 or 6-blocs coil design
- July 2009 : first MQXC design meeting → winding trail proposition
- From August to October 2009
  - Components design for winding trial
  - Transfer process from ROXIE to CATIA
- October 2009 : coil design fixed
- November 2009 : second MQXC design meeting
- From November to December 2009
  - Trial components and tooling design finalisation
  - Tooling procurements
- Since mid January 2010, design work on model tooling's has restarted

# Actual status – Winding and curing trial

Trial design has been fixed beginning November 2009

Winding tooling has been designed and procured

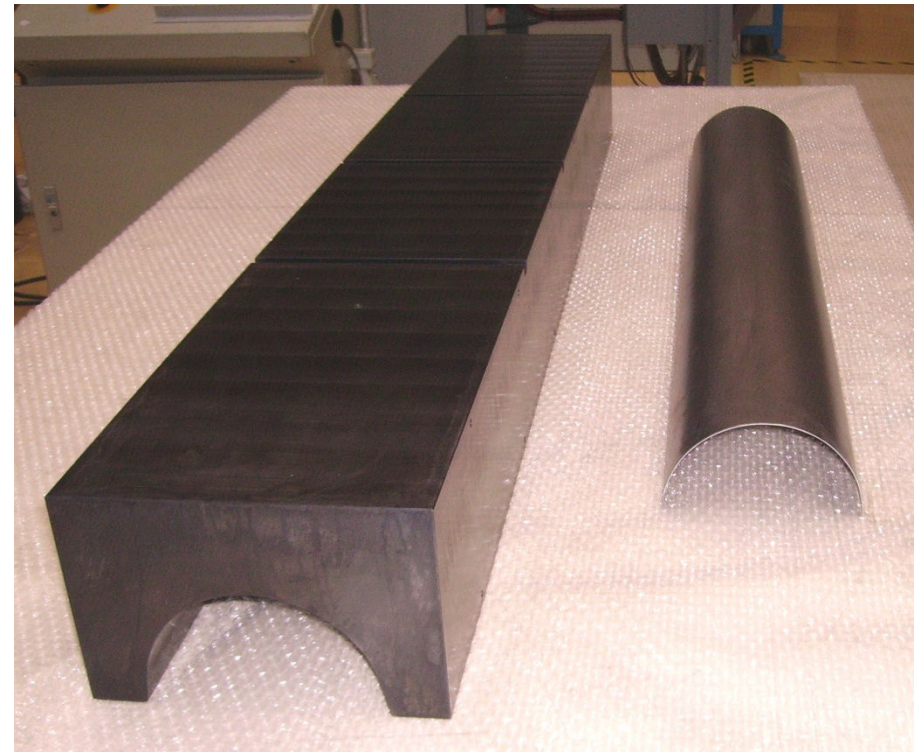
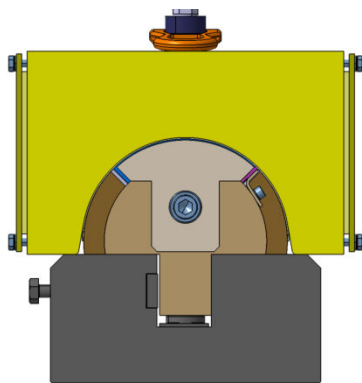
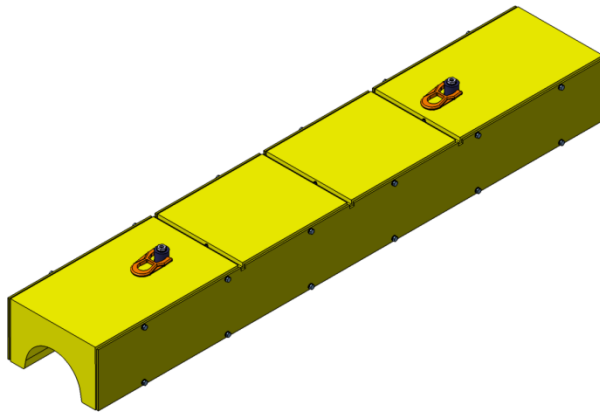
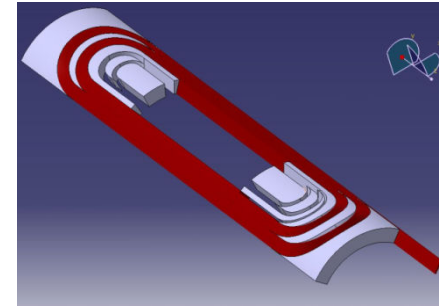


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Trial design has been fixed beginning November 2009

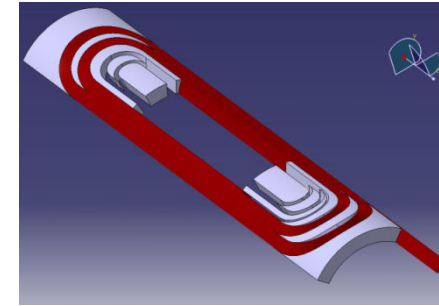
Winding tooling has been designed and procured

Curing tooling has been designed and procured



# Actual status – Winding and curing trial

Winding machine is operative at CEA Saclay



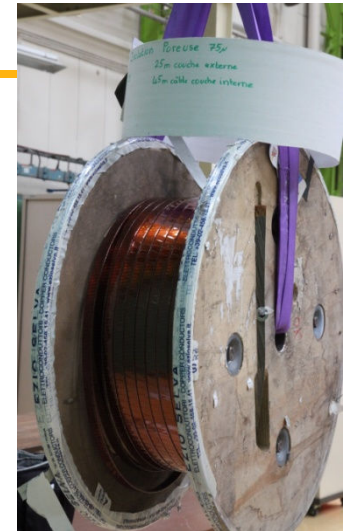
Curing press is under installation and repair → mid March 2010



# Actual status – Winding and curing trial

Two insulated conductor lengths (cable-01 and cable -02) have been delivered to CEA on January 18<sup>th</sup>

Last week the conductor has been transferred on winding tooling



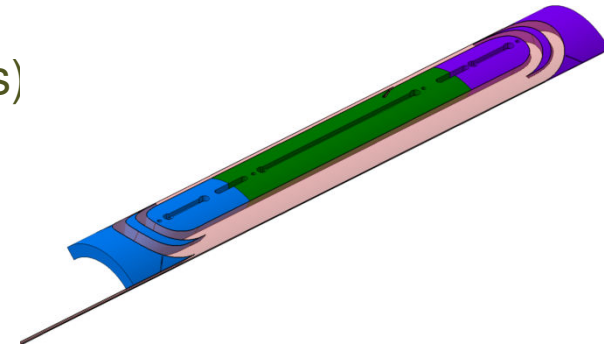
Other components (polar wedge and end spacers) for the winding trial have been designed

Coil wedges are realized by CERN

→ delivery foreseen by the end of February

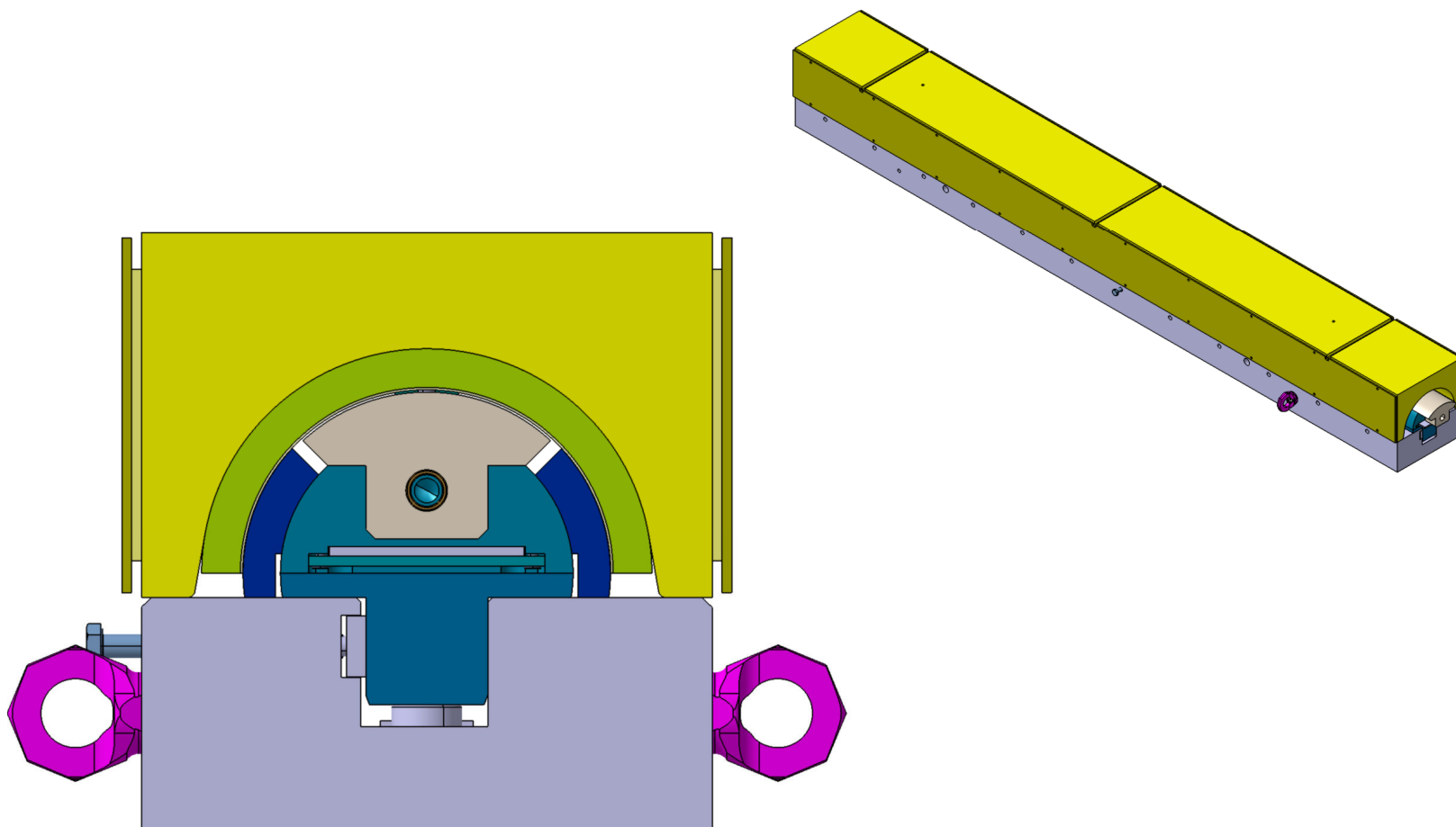
→ Few bending tests will be carried out next week

→ **Winding trial can be foreseen in March 2010**



# Actual status – Model design

- CAD design work on model tooling's has been restarted
  - ~50 days of work are foreseen in order to complete tools design



# Actual status – Model design

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- CAD design work on model tooling's has been restarted
  - ~50 days of work are foreseen in order to complete tools design
- If we have splice design by the end of February and results from winding trial by the end of March
  - we can foresee to have all the tooling designed by mid April
  - components and tooling procurements by end of July
  - first dummy coil for September 2010
  - first set of 4 coils by October 2010
  - second set of 4 coils by November 2010
  - model by ?



# Tentative Schedule

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	2009				2010				2011				2012				
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Annual Meeting																	
Quad Design										← Report ? →							
Component and Tooling design																	
Winding and curing trial																	
Component and tool supply																	
Coil manufacturing and test																	
Model assembly and tests ?																	
Full scale prototype																	