



Introduction, News and Objectives

JCH

Latest news

- Phase Transition in France: IN2P3 strongly supports QUBIC
 - QUBIC Researcher position at LAL in 2017
 - 100-120 k€ allocated to QUBIC this year
 - Priority for the Technological Demonstrator
 - T.D. results to trigger Review/Discussions with IN2P3 in ~Oct. 2017
 - Money request for F.I. will follow
 - F.I. in 2018
- Discussions between INFN and PNRA (and IN2P3) seem to have converged to an agreement
 - There seem to be no objection for using the cryostat + Pulse Tubes in Paris for the T.D. and ship them to Argentina later
 - 2017 INFN money needs to be used for:
 - completing T.D. Italian devices (most of them already available)
 - mostly for finalizing the F.I. Italian devices.
 - This needs to obtain a significant fraction of the subjudice quoted in Sept. INFN funding (33.5 k€ direct + 72 k€ Subjudice)
- Argentina:
 - Road works have started and should be finalized by end of February
 - Agreement with Salta Province for the “official” site location + energy + buildings in SAC on the way
 - Weather station installed on the actual site in Nov. 2016: Operative and taking data
 - Mount + shelter design making fast progress
 - Effort in CNEA to have an alternate fabrication chain for QUBIC TES designed by C2N/CSNSM (Risk Management)
 - Requirements for Integration Hall in Salta available.
- 2 PhDs on QUBIC defended this autumn:
 - Mikahil Stolpovskiy: Data Analysis and Simulations -> Now has left the collaboration
 - Camille Perbost: TES fabrication and testing -> Will continue working in Argentina

Our priority for this year

- **The Technological Demonstrator !!**

- Nothing will happen if we do not succeed in having it operating in mid 2017

- Based on:

- already available:

- Pulse Tubes
 - Mirrors
 - 12x12 horns and switches
 - HWP
 - Fridges
 - Integration Hall at APC

- On the way:

- Filters
 - Cryostat
 - 1K Box
 - Detectors
 - Integration support
 - Calibration tasks

In Parallel: Elements for the F.I:

- Detectors (30 arrays from CSNSM/C2N by the end of 2017) + electronics
- 20x20 horns and switches
- Large mirrors
- In Argentina:
 - Site logistics
 - Integration hall in Salta
 - Detectors alternate fabrication
 - Mount

Target schedule

Sub-systems	Delivered...		Delivery date for...	
	By	To	T.D.	F.I.
Detection chain and 1K box	APC	APC	03/2017	09/2017
TES Detectors	CSNSM	APC	12/2016	06/2017
Calibration sources	APC	APC	04/2017	Cf. TD
Simulations, Instrument Design, Data Analysis	APC	QUBIC	Completed	12/2016 for design
Optics Group				
Filters	Cardiff	Roma / APC	12/2016	04/2017
Horns (RF design)	Manchester	APC	Completed	Completed
Horns (fabrication)	Milano	APC	Completed	11/2016
Horns (tests)	Milano-Bicocca	APC	11/2016	05/2017
Optical simulations	<u>Maynooth</u>	QUBIC	Completed	12/2016
HWP	Cardiff	Roma	12/2016	Cf. TD
Switches (RF design)	Cardiff	QUBIC	Completed	11/2016 (chokes)
Switches (general design)	APC	Milano	Completed	12/2016
Switches (fab + assembly + slow control + test)	Milano-Bicocca	APC	10/2016	03/2017
Full Beam Source	Roma	APC	04/2017	Cf. TD
Polarizer & Dichroic	Cardiff	APC	01/2017	05/2017
Baffling	Roma	APC	05/2017	Cf. TD
Combiner test	Roma	APC	04/2017	07/2017
Mirrors (fabrication + tests)	Milano-Bicocca	APC	09/2016	05/2017
Carbon Fiber Lamps	LAL		01/2017	Cf. TD
Cryostat & cryogenics				
Cryogenic HWP Rotator	Roma	Roma	11/2016	Cf. TD
1K and Sub-K Fridges	Manchester	Roma / APC	01/2017	Cf. TD
Cryogenics Maintenance	CNEA CAB	QUBIC	-	Start 2018
Overall Slow control & Data Storage of Raw Data	IRAP	QUBIC	11/2016	Cf. TD
Mount	GEMA	On site	-	03/2018
Logistics & Site Development	IAR / ITEDA	On site	-	10/2017
Assembly, Integration and test of QUBIC module	APC	QUBIC	12/2017	04/2018
Calibration and test of integrated instrument	LAL	QUBIC	12/2017	04/2018