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ID: Title	ALICE MUON PROJECT

Project Leaders	French Group			Korean Group		
	Name	Title	Affiliation	Name	Title	Affiliation
	Dupieux, Pascal	Dr.	LPC-IN2P3	Baek, Yongwook	Dr.	GWNU & LPC-IN2P3

Funding from France within LIA

Description	Euro/unit	Nb of units	Total (euros)	Provided by: *
No specific funding				
Total				

Funding from Korea

Description	Won/Unit	Nb of units	Total (Won)	Provided by: **
Ahn Sangun's stay at CERN	3,000,000	2	6,000,000	NRF
Total				

Additional funding (outside LIA)	Funding from France			Funding from Korea		
	Provided by: ***	Type	Euro	Provided by: ***	Type	Won
	IN2P3	Y.Baek (salary)	64,800			
	IN2P3	Y. Baek (missions)	1654,13			

* For example: IN2P3, CEA. ** Korean University or Institute. *** French Embassy, STAR, PICS, other grants…

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Summary of 2012 activities	ALICE is the detector devoted to the Physics of heavy ion collisions at LHC. The "ALICE MUON" project in the framework of this LIA is a collaboration, between Korea and France, on the Trigger System of the ALICE Muon Spectrometer (MTR, for Muon TRigger) as well as on the Physics program with the Muon Spectrometer. The Physics program with the Muon Spectrometer is focused on open heavy flavor and quarkonia measurements, with the goal of characterizing the properties of the so-called quark gluon plasma (QGP) phase of nuclear matter at extremely high energy density. On the experimental side, the MTR is now completely installed, fully commissioned and operational. Since September 2008, the common work of run coordination (and detector expertise) for MTR has been carried out by Dr Baek, attached to the LPC Clermont-Fd but on site at CERN. This work is done in close collaboration with the MTR project leader (Dr. Pascal Dupieux from LPC Clermont-Fd) and the groups of LPC Clermont-Fd, INFN Torino and Subatech Nantes. In 2012 data taking in p-p at 8 TeV started from early March. The initial goal for the Muon Spectrometer was to accumulate a luminosity of 5 pb-1. But only 4 pb-1 will be actually achieved at the end of the 2012 p-p period (including a high luminosity data taking period at 5-8 Hz/μbarn in November and December) due to the quite large beam-gas background raised from bad vacuum conditions. The detector has operated successfully during this p-p period where ALICE Muon Spectrometer has shown a high performance for data taking. On top of the responsibility of the MTR, the group of Clermont-Fd participated very actively to ALICE operation, taking in charge many central shift periods: Dr. Baek especially has acting many times as "shift leader". M. SangUn Ahn has started a dual degree thesis in 2009 between the universities of Konkuk (Seoul, Korea) and Blaise Pascal (Clermont-Ferrand, France). The thesis supervisors were Pr. Oh and Pr. Rosnet, from Konkuk and Blaise Pascal University, respectively. M. Sangun Ahn has obtained Ph.D Degree on 5th December 2011. The title of his phD thesis is "Analysis of Y production in pp collisions at 7 TeV with the ALICE Muon Spectrometer". His study on Y production has been presented in the ICATPP conference at COMO, in Italy. He also presented his results in a meeting of the Korean Physics Society. After that, he has obtained a position in KISTI GSDC for GRID computing since June 2012. M. Jooho Lee has obtained his Master Degree on 15th June 2012 by presenting a master thesis about the offline monitoring using raw data and J/ψ reconstruction in ALICE Muon Spectrometer. Early 2011, Korea (GWNU) became full member of the ALICE Muon Spectrometer project, with voting rights at the Institutional Board. This initiative has of course received the full support of LPC Clermont-Fd with the idea of strengthening the collaboration with Korea on the long term within this project.

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Publica-tions since 2010	**1. Pseudorapidity density of charged particles p-Pb collisions at $\sqrt{s}_{NN}$ = 5.02 TeV, arXiv:1210.3615; CERN-PH-EP-2012-306** **2. Transverse Momentum Distribution and Nuclear Modification Factor of Charged Particles in p-Pb Collisions at $\sqrt{s}_{NN}$ = 5.02 TeV, arXiv:1210.4520; CERN-PH-EP-2012-306** **3. Coherent J/Ψ photoproduction in ultra-peripheral Pb-Pb collisions at $\sqrt{s}_{NN}$ = 2.76 TeV, arXiv:1209.3715; CERN-PH-EP-2012-270** **4. Production of muons from heavy flavor decays at forward rapidity in pp and Pb-Pb collisions at $\sqrt{s}_{NN}$ = 2.76 TeV, arXiv:1205.6443; CERN-PH-EP-2012-155** **5. Inclusive J/Ψ production in pp collisions at $\sqrt{s}_{NN}$ = 2.76 TeV, Phys. Lett. B 718 (2012) 295-306** **6. Heavy flavor decay muon production at forward rapidity in proton-proton collisions at √s = 7 TeV, Phys. Lett. B 708 (2012) 265-275** **7. Light vector mesonnproduction in pp collisions at √s = 7 TeV, Phys. Lett. B 710 (2012) 557-568** **8. J/Ψ polarization in pp collisions at √s = 7 TeV, Phys. Rev. Lett. 108 (2012) 082001** **9. S.U.Ahn for the ALICE Collaboration, "Quarkonia Physics with the ALICE Muon Spectrometer", Proceedings fo the 3rd ICATPP conference, Como, Italy, Oct 2001, in press** **10. First proton-proton collisions at the LHC as observed with the ALICE detector: measurement of the charged-particle pseudorapidity density at √s =900 GeV, Eur. Phys. J. C 65 (2010) 111-125** **11. Rapidity and transverse momentum dependence of inclusive J/ψ production in pp collisions at √s = 7 TeV, Phys. Lett. B 704 (2011) 442-455** **12. Two-pion Bose-Einstein correlations in central PbPb collisions at √s NN = 2.76 TeV, Phys. Lett. B 696 (2011) 328-337** **13. Centrality dependence of the charged-particle multiplicity density at mid-rapidity in Pb-Pb collisions at √s NN = 2.76 TeV, Phys. Rev. Lett. 106 (2011) 032301** **14. Suppression of Charged Particle Production at Large Transverse Momentum in Central Pb--Pb Collisions at √s NN = 2.76 TeV, Phys. Lett. B 696 (2011) 30-39** **15. Strange particle production in proton-proton collisions at s √s = 0.9 TeV with ALICE at the LHC, Eur. Phys. J. C 71 (2011) 1594** **16. Charged-particle multiplicity density at mid-rapidity in central Pb-Pb collisions at √s NN = 2.76 TeV, Phys. Rev. Lett. 105 (2010) 252301** **17. Elliptic flow of charged particles in Pb-Pb collisions at √s NN = 2.76 TeV, Phys. Rev. Lett. 105 (2010) 252302** **18. Transverse momentum spectra of charged particles in proton-proton collisions at √s= 900 GeV with ALICE at the LHC, Phys. Lett. B 693 (2010) 53-68**

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	19. Two-pion Bose-Einstein correlations in pp collisions at √s =900 GeV, Phys. Rev. D 82 (2010) 052001 **20. Midrapidity antiproton-to-proton ratio in pp collisions at s √ =0.9 and 7 ~TeV measured by the ALICE experiment, Phys. Rev. Lett. 105 (2010) 07200** **21. Charged-particle multiplicity measurement in proton-proton collisions at √s = 7 TeV with ALICE at LHC, Eur. Phys. J. C 68 (2010) 345-354** **22. Charged-particle multiplicity measurement in proton-proton collisions at √s = 0.9 and 2.36 TeV with ALICE at LHC, Eur. Phys. J. C 68 (2010) 89-108**