

Application for AIL Project (2007)

ID: Project Title	D_R&D_3.1: New photon detector for the Mton Water Cherenkov detectors							
Member List	French Group			Japanese Group				
	Name	Title	Affiliation	Name	Title	Affiliation		
	<u>Leader</u> J.E. Campagne	Dr.	IN2P3, LAL	<u>Leader</u> K. Nakamura	Prof.	KEK		
				T. Kajita	Prof.	ICRR		
	S. Katsanevas	Prof.	IN2P3	H. Aihara	Prof.	Tokyo U.		
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J. Pouthas	Engineer	IN2P3,IPNO	Y. Fujita	Engineer	KEK			
Place of the mission	KEK, Orsay							
Summary of Project	<p>Detector mass of the order of Mton is necessary for future CP violation search in long baseline neutrino oscillation experiments. Several ideas of Mton Water Cherenkov detectors are being discussed. In such a detector, 200,000 or more PMT's will become necessary. One idea to decrease the price of one photodetection channel is to optimized the present PMT's and the associated electronics. An other possible development is to realize large area, cheap, stable, water proof photon detectors which can replace conventional photomultiplier tubes. We propose to collaborate on the developments of both idea.</p> <p>In 2006, some of the partners have met at Seattle in 21st-23rd September at the NNN06 workshop, while others have met at KEK in November 3rd. In March 2007, a KEK electronician came during one week at LAL to discuss of possible collaboration of Front End electronics for HPD currently developed in Japan for Mton Water Cherenkov.</p> <p>The LAL and KEK groups think that a collaboration is envisageable for:</p> <ul style="list-style-type: none"> • eveluation and test of an available version of a LAL ASIC chip in the context of HPD read out; • design & test of a new version if necessary to specialize the ASIC chip for the HPD use case. <p>This is a 2 years R et D, although for 2007 we only consider travel expenses to meet at KEK or LAL, planning for 2008 a possible ASIC fabrication.</p>							
Budget Plan	French Group				Japanese Group			
	Item		Euro	Supported by	Item		k Yen	Supported by
	Travel	800			Travel	200		
Nb travels	6	5,000	CNRS	Nb travels	4	800	KEK	

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	Per-diem	200			Per-diem	20		
	Nb days	10	2000	CNRS/CEA	Nb days	20	400	KEK
	Total		7000		Total		1,200	