SND@LHC

Bologna, 2021May7

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SND@LHC è un esperimento senza uguali per la fisica con neutrini

SND@LHC sonderà la regione inesplorata tra 350 GeV e 3 TeV

Il programma di fisica è complementare ai grandi esperimenti di LHC

	CC neutrino	interactions	NC neutrino interactions				
Flavour	$\langle E \rangle ~(GeV)$	Yield	$\langle E \rangle (GeV)$	Yield			
$\overline{ u_{\mu}}$	450	730	480	220			
$ar{ u}_{\mu}$	485	290	480	110			
$ u_e$	760	235	720	70			
$ar{ u}_e$	680	120	720	44			
$ u_{ au}$	740	14	740	4			
$ar{ u}_{ au}$	740	6	740	2			
TOT		1395		450			

Previsione per LHC RUN3 (2022-2024):

alcune delle misure garantite:

studio rapporto nu_e/nu_mu studio rapporto NC/CC osservazione nu_tau di alta energia

FUTURO: LHC RUN4 (2027 e oltre):



emulsioni —> silicon tracker alcune migliaia di nu_tau un secondo detector a 4<eta<5 per nu da W ?





Proposed workplan (LMC April 28)

- Initial plan: works in July-August with LHC at 2K $oldsymbol{O}$
 - → Re-assessment of helium risk strongly prefers floating machine at 20K
 - → Moving works to after pilot beam would leave installation short of time, ~4 weeks depending on availability of equipment & service groups



- - Machine at 20K in July-August, minimize duration (current schedule was to avoid long continuous access) •
 - Install light protection on critical parts •
- Plan B: \bigcirc
 - Keep flexibility to move to after pilot beam if June 7 schedule review adds a ~month to YETS ٠
 - Delay of pilot beam would shift planning by the same amount •

SND@LHC Institute Board, 21 May 2021

Annex 1 Collaborating Institutions in the Collaboration and the names of their Contact Persons

Country	Collaborating Institution	Contact Person
Chile	SAPHIR	Sergey Kuleshov
Germany	Humboldt University of Berlin	Heiko Lacker
	University of Mainz	Rainer Wanke
Italy	INFN and University of Bari	Saverio Simone
	INFN and University of Bologna	Marco Dallavalle
	INFN and University of Naples	Antonia Di Crescenzo
Japan	University of Nagoya	Masahiro Komatsu
	University of Toho	Satoru Ogawa
Korea	GNU (Gyeongsang National University)	Kang Young Lee
Portugal	LIP	Nuno Leonardo
Russia	NRC, Kurchatov Institute	Vladimir Shevchenko
	Lebedev, Moscow	Tatiana Schedrina
	MISiS	Eric van Herwijnen
	Moscow State University (MSU)	Tatyana Roganova
Switzerland	EPFL	Lesya Shchutska
	University of Zurich	Christopher Betancourt
Turkey	METU	Murat Ali Guler
UK	Imperial College London (ICL)	Andrei Golutvin
	CERN	Thomas Ruf

MoU

Annex 4Sub-Detector Structure and Technical Participation of the Collaborating
Institutions of the Experiment (The first Collaborating Institutions in the list, in bold
letters, takes responsibility for accomplishing the task, while the other Collaborating
Institutions participate to the task)

Responsibility	Deliverables	Collaborating Institutions			
VETO	Detector modules, mechanics, electronics and services, associated software	Zurich			
ETS	Mechanics, tungsten target, emulsion	Naples, Ankara, Bari, ICL, Kurchatov, Lebedev, MISiS, MSU, Nagoya, Toho			
ETS	Dark room tooling, consumables	GNU			
ETS	Cold box, neutron shield	SAPHIR			
TT	Detector modules, mechanics, electronics and services, associated software	EPFL			
MUON	Detector modules, mechanics, electronics and services, associated software	Zurich, Bologna, Mainz, Berlin, LIP			
ONLINE	Timing, readout electronics, computing infrastructure, control room equipment, associated software	EPFL, CERN			
OFFLINE	Software, computing infrastructure	CERN			
SCANNING	Scanning stations	Naples, Bologna, Lebedev, Zurich, CERN			
INFRA	Experimental area, infrastructure, services, support	CERN (Hostlab, EP)			

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SND@LHC collaboration meetings per informazioni sulle diverse attività

https://indico.cern.ch/category/13140/

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	19Feb 3rd SND9LHC Collaboration meeting December 2020
	E 160es 2nd SNDOLHC Collaboration meeting October 2020
	E securi 1st SND Collaboration meeting
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Per rivelatore di muoni e offline:

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May 2021				There are no materials yet.		
27 May SND software meeting www.						
25 May SND Veto/Muon system meeting	and the second se					
E 19 May SND software meeting						
19 May SND Veto/Muon system meeting		Vote	Muon (Chris Rote	anco	urt (7ürich II
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April 2021		SW	(offline):	Thomas F	Ruf (C	CERN)
29 Apr SND software meeting		••••	(••••••			
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C7 Apr SND Veto/Muon system meeting						
There are 25 graphs in the post. Show						

Muon: Mercoledì h 14-15

SW: Giovedì h 14.30-17

Veto/Muon contiene anche DAQ

DAQ: Ettore Zaffaroni (EPFL)





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Muon: assemblaggio e test

	July				August				September				October
Item	Week 1	Week 2	Week 3	Week 4	Week 1	Week 2	Week 3	Week 4	Week 1	Week 2	Week 3	Week 4	Week 1
Veto bars + frame assembly													
Veto PCB test		_											
Veto PCB + frame assembly													
Muon US bars + frame assembly													
Muon US PCB test													
Muon US PCB + frame assembly													
Muon US Plane testing													
Muon DS bar measure													
Muon DS bar wrapping													
Muon DS bars + frame assembly													
Muon DS PCB test													
Muon DS PCB + frame assembly													
Muon DS plane testing													
HCAL testbeam in H8 (US Muon)													
Surface comissioning in H6													
Shifter													
Chris													
Dario													
Heiko													
Anupama													
Andrew													
Jakob													
Guilherme								_					
Marco													
Antonio													
Vittorio													
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