NUMEN

Determining the Nuclear Matrix Elements of Neutrinoless Double Beta Decays by Heavy-Ion Double Charge Exchange Reactions

Organization (June 2023)

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NUMEN sub-projects

NUMEN PROJECTS	COORDINATOR *COMPONENTS*	FORESEEN ACTIVITY
SPOKESPERSON	**F.Cappuzzello, C.Agodi**	Scientific responsibility; Interface with the external; NP coordination activities; Coordinating resources and collaborations; MAGNEX upgrade
CROSS SECTION DATA	**M.Cavallaro** *L.Acosta, C.Agodi, P.Amador-Valenzuela, I.Boztosun, G.A.Brischetto, D.Calvo, L.Campajola, F.Cappuzzello, D.Carbone, M.Cavallaro, E.R.Chávez Lomelí, I.Ciraldo, F.Delaunay, H.Dapo, L. M. Donaldson, C.Eke, P.Finocchiaro, S.Firat, M.Fisichella, M.A.Guazzelli, A.Hacisalihoglu, T.C. Khumalo, S.Koulouris, R.Linares, N.H.Medina, R.Neveling, J.R.B.Oliveira, A.Pakou, L.Pandola, L.Pellegri, H.Petrascu, O.Sgouros, S.O.Solakcı, V.Soukeras, G.Souliotis, A.Spatafora, D.Torresi, S.Tudisco, A.Yildirim, V.A.B.Zagatto* [a)]	Experiment setup; Facility optimization; Experiment shifts; Data taking
DATA REDUCTION	**D.Carbone, R.Linares** *C.Agodi, P.Amador-Valenzuela, G.A.Brischetto, F.Cappuzzello, D.Carbone, M.Cavallaro, I.Ciraldo, C. Eke, S.Firat, M.Fisichella, A.Hacisalihoglu, R.Linares, O.Sgouros, V.Soukeras, A.Spatafora, V.A.B.Zagatto*	Extraction of energy spectra and absolute cross sections
FPD GAS TRACKER	**M. Cavallaro, D.Torresi** *C.Agodi,Y.Ayyad, I.Boztosun, G.A.Brischetto, D.Calvo, L.Campajola, F.Cappuzzello, M.Cavallaro, I.Ciraldo, H.Dapo, F. Delaunay, M. Fisichella, E.M.Gandolfo, Y.Kucuk, N.H. Medina, L.Neri, R.Neveling, L.Pellegri, R. Persiani, H.Petrascu,*	Design, building and test of the gas prototype and of the final tracker

	D. Sartirana, O. Sgouros,V. Soukeras, D.Torresi, A.Yildirim [b)]	
FPD PID SYSTEM	**S.Tudisco, D.Carbone, P.Finocchiaro** *C.Agodi, G.A.Brischetto, D. Calvo, L.Campajola, F.Cappuzzello, D.Carbone, M.Cavallaro, F.Dumitrace, P.Finocchiaro, E.M.Gandolfo, G. Lanzalone, D. Sartirana, O.Sgouros, V.Soukeras, A.Spatafora, S.Tudisco*	Building prototypes and tests with SiC technology; Study of CsI technology for NUMEN PID; Construction of crystals and assembly with suitable read-out systems; Project of final detectors; Building of the final detector;
GAMMA ARRAY	**J.R.B.Oliveira, P.Finocchiaro** *C.Agodi, I.Boztosun, A. Boiano, D. Calvo, L.Campajola, F.Cappuzzello, M. Cavallaro, I. Ciraldo, H. Dapo, C. De Benetictis, C. Eke, C. Ferraresi, P. Finocchiaro, E.M.Gandolfo, J. Isaak, Y. Kucuc, R.Linares, N.H.Medina, M.Moralles, J.R.B.Oliveira, L. Pellegri, D. Pierroutsakou, N. Pietralla, D. Sartirana, O. Sgouros, S.O.Solakcı, A. Spatafora, V.Werner, A.Yildirim, V.A.B. Zagatto*	Choice of the scintillator; Building prototypes; Test of prototypes; Design of the final detector
THEORETICAL MODELS	**M.Colonna, E.Santopinto** *N.Auerbach, J.I.Bellone, R.Bijker, I.Boztosun, S. Burrello, E.N.Cardozo, M.Colonna, G. De Gregorio, D.Gambacurta, A. Gargano, J.L.Ferreira, H.Garcia-Tecocoatzi, J.Kotila, Y.Kucuk, A.Lavagno, J.A.Lay, H.Lenske, J.Lubian, E.Santopinto, R.B.B.Santos* [c)]	Folding of nuclear structure and reaction models; Development of microscopic DCE theory; Extraction of matrix elements from DCE cross sections
HIGH INTENSITY BEAM MANAGEMENT	**A. D. Russo** *C. Agodi, L.Campajola, D.Carbone, F. Cappuzzello, M.Cavallaro, G. D'Agostino, A.D.Russo*	Beam transport line; beam dump
IT SYSTEM	**L.Pandola** *I.Boztosun, G.A.Brischetto, D. Carbone, F. Delaunay, E.M.Gandolfo, M.Moralles, J.R.B.Oliveira, L.Pandola, R. Persiani, O.Sgouros, V.Soukeras, A. Spatafora, D. Torresi*	DAQ; Computation; Simulations; Storage; Web management
TARGETS	**M. Giovannini** *L.Acosta, N. Added, C.Agodi, V.A.P. de Aguiar, L.H.Avanzi, D.Calvo, F.Cappuzzello, G. Castro,*	Target system design and production; Radiation damage study; Cooling system design; Study of dissipation; Deposition techniques

	M. Cavallaro, E.Chavez Lomeli, E.F. Chinaglia, K.M.Costa, F.Delaunay, M.Fisichella, M. Giovannini, M.A.Guazzelli, A.Huerta Hernandez, D.J.Marin Lambarri, S. H. Masunaga, N.H.Medina, J.R.B.Oliveira, T.M.Santarelli, R.B.B.Santos, D. Sartirana, V. Soukeras, D.Torresi, H.Vargas Hernandez, R. G. Villagrán	
INTEGRATION (transversal sub-project)	**D.Calvo** *C.Agodi, S.Brasolin, M.P.Bussa, D.Calvo, D.Carbone, F.Cappuzzello, M.Cavallaro, E.R. Chávez Lomelí, C. De Benedectis, F.Dumitrache, C.Ferraresi, A. Huerta Hernandez, P.Mereu, J.R.B.Oliveira, R. Panero, D.Sartirana, D. Torresi, H. Vargas Hernandez, R. G. Villagrán*	Mechanical integration of devices; Design and construction of vacuum chambers;
ELECTRONICS (transversal sub-project)	**P.Finocchiaro, A. Spatafora** *F. Delaunay, P. Finocchiaro, M.A.Guazzelli, N.H.Medina, M.Moralles, J.R.B.Oliveira, L.Pandola, R. Persiani, R.B.B.Santos, V. Soukeras, A. Spatafora, D.Torresi*	Front-end electronics; Readout electronics; Data acquisition

[b)] Collaboration with M. Cortesi (MSU).

[c)] Collaboration with R.I.M. Vsevolodovna

Technical Board (TB)

COMPONENTS	FORESEEN ACTIVITY
F.Cappuzzello, C.Agodi *C.Agodi, D.Calvo, F.Cappuzzello, D.Carbone, M.Cavallaro, M.Colonna, P.Finocchiaro, M. Giovannini, R.Linares, J.R.B.Oliveira, L.Pandola, E.Santopinto, A. D. Russo, A. Spatafora, D.Torresi, S.Tudisco*	Sub-projects coordination activities; Publications management; Conferences management

Publication Committee (PC)

COMPONENTS	FORESEEN ACTIVITY
D. Calvo, D. Carbone, E. Santopinto, S. Tudisco	Publications management

Speaker Committee (SC)

COMPONENTS	FORESEEN ACTIVITY
M. Cavallaro, M. Colonna, J.R.B. Oliveira, L. Pandola	Conferences management

Project management Committee (PM)

COMPONENTS	FORESEEN ACTIVITY
C. Agodi, D. Calvo, F. Cappuzzello, M. Cavallaro, P. Finocchiaro	Risk assessment strategies, time schedule optimization, project control, communication