FUSION23 Program (Shimizu Terrsa, Shizuoka, Japan)

Version 2023.11.15

Sunday, November 19, 2023

17:00		Registration
18:00	20:00	Welcome Reception

Monday, November 20, 2023

from	to			
		Opening session		
9:00	9:10	K. Hagino	Kyoto	Opening address
		Session 1 Chair: M. Dasgupta (ANU)		
9:10	9:40	W. Nazarewicz	MSU/FRIB	Pushing the limits of the periodic table and nuclear landscape
9:40	10:10	K.J. Cook	ANU	Onset of complexity outside the barrier in heavy-ion reactions: moving towards a more complete picture of fusion
10:10	10:30	K. Godbey	MSU	Near-barrier fusion reactions as a probe for exotic nuclei
10:30	11:00	Coffee Break		
		Session 2 Chair: T. Nakatsukasa (Tsukuba)		
11:00	11:30	A.S. Umar	Vanderbilt	Pauli energy contribution to nucleus-nucleus interaction
11:30	11:50	N. Watwood	ANL	Unexpected observations of heavy-ion fusion excitation functions above the Coulomb barrier
11:50	12:20	M.R. Mumpower	LANL	Macroscopic-microscopic fission yields
12:20	12:40	S. Chiba	NAT Center	Mass and TKE distributions of fission fragments of Th isotopes studied by a 5-dimensional Langevin model
12:40	14:00	Lunch		
		Session 3 Chair: D.J. Hinde (ANU)		
14:00	14:30	K. Morimoto	RIKEN	Status of new element search at RIKEN
14:30	15:00	A.V. Karpov	JINR	Superheavy elements at JINR
15:00	15:30	D. Ackermann	GANIL	Superheavy nuclei and other exotics – opportunities at SPIRAL2 and S3
15:30	15:50	T. Nakatsukasa	Tsukuba	Collective subspace requantization for sub-barrier fusion reactions
15:50	16:20	Coffee Break		
		Session 4 Chair: S. Umar (Vanderbilt)		
16:20	16:50	L. Guo	UCAS	Fusion dynamics for heavy and superheavy elements production

16:50	17:20	K. Sekizawa	Tokyo Tech.	Dreaming of superheavy nuclei: From terrestrial experiments to celestial origins
17:20	17:40	Y. Aritomo	Kindai	Theoretical estimation and reaction mechanism of synthesizing neutron rich nuclei in superheavy mass region

Tuesday, November 21, 2023

		Session 5	Chair: C.J. Lin (CIAE)	
9:00	9:30	X.D. Tang	IMP	The 12C+12C fusion reaction at stellar energies
9:30	10:00	A. Tumino	U. degli Studi di Enna	Sub-Coulomb nuclear studies using Indirect Methods: recent results with the Trojan Horse Method
10:00	10:20	Y. Taniguchi	Kagawa	12C+12C fusion reaction rate at low temperatures from a microscopic nuclear mode
10:20	10:40	S. Courtin	Strasbourg	News on the carbon burning at stellar energies from deep sub-barrier fusion measurements
10:40	11:10	Coffee Break		
		Session 6	Chair: A. Di Pietro (INFN-LNS)	
11:10	11:40	L. Yang	CIAE	Reaction dynamics of proton drip-line nuclei at energies around the Coulomb barrier
11:40	12:00	A. Bonhomme	Strasbourg	Coincidence measurements of fusion reactions involving carbon and oxygen with the high-precision STELlar LAboratory (STELLA)
12:00	12:20	M. La Cognata	INFN-LNS	Measurement of the 27Al(p, α)24Mg fusion reaction at astrophysical energies via the Trojan Horse Method
12:20	12:40	C.J. Lin	CIAE	On the optical model potentials of exotic nuclear systems
12:40	14:00	Lunch		
		Session 7	Chair: W. Nazarewicz (MSU/FRIB)	
14:00	14:30	D.J. Hinde	ANU	Sequential fission and the influence of 208Pb closed shells on the dynamics of superheavy element synthesis reactions
14:30	15:00	J. Khuyagbaatar	GSI	The superheavy nuclei: non-fusion, fusion and fission
15:00	15:20	T. Niwase	Kyushu	Direct mass measurement of superheavy nuclides produced by fusion-evaporation reactions
15:20	15:50	M. Block	GSI	Structure of heavy nuclei investigated by laser spectroscopy and mass spectrometry at
15:50	16:10	M. Albertsson	Berkley	Fusion-quasifission dynamics in a random-walk model
16:10	18:00	Poster Session		

Wednesday, November 22, 2023

		Session 8	Chair: D. Ackerman (GANIL)	

9:00	9:30	L. Corradi	INFN-LNL	Nucleon-nucleon correlations probed in sub-barrier transfer reactions and the nuclear Josephson effect
9:30	10:00	Y.X. Watanabe	KEK	Spectroscopy of neutron-rich nuclei produced by multinucleon transfer reactions at KISS
10:00	10:20	S. Szilner	RBI	Population of heavy-neutron rich nuclei in multinucleon transfer reactions
10:20	10:40	G. Colucci	Warsaw	Dissipation by transfer and its influence on fusion
10:40	11:00	Coffee Break		
		Session 9	Chair: S. Sakaguchi (Kyushu)	
11:00	11:20	P. Mosat	GSI	Adsorption-based nuclear spectroscopy of superheavy nuclei with ANSWERS at TASCA
11:20	11:40	E. Ideguchi	Osaka	Study of deformed structure in 254Es and 249Cf by Coulomb excitation
11:40	12:00	P. Brionnet	RIKEN	Reaction parameter studies of the 51V beam onto deformed target: 51V+159Tb reaction
		Excursion Banquet		

Thursday, November 23, 2023

		Session 10	Chair: A. Andreyev (York)	
9:00	9:30	C. Simenel	ANU	Shell effects in fission and quasifission
9:30	10:00	M. Caamano	Santiago de Compostela	Connection between nuclear structure, dissipation, and time in fission data
10:00	10:20	M. Asai	JAEA	Mass-TKE distributions for symmetric fission in neutron-rich Fm and transfermium nuclei
10:20	10:40	P. McGlynn	ANU	Mapping the influence of shell effects on fission and quasifission modes
10:40	11:10	Coffee Break		
		Session 11	Chair: L. Corradi (INFN-LNL)	
11:10	11:40	J. Randrup	Berkley	Fission Fragment Angular Momenta: Generation & Observation
11:40	12:10	K. Hirose	JAEA	Experimental fission study by multi-nucleon transfer reaction at JAEA
12:10	12:30	A. Dey	Dubna	Excitation energy dependency of the low-energy fission dynamics: Probing through prompt gamma-ray spectroscopy
12:30	12:50	S. Tanaka	RIKEN	Nuclear fission of neutron-rich nuclei based on a dynamical model toward r-process
12:50	14:10	Lunch		
		Session 12	Chair: Y.X. Watanabe (KEK)	
14:10	14:40	G. Montagnoli	Padova	Low-energy fusion hindrance in medium-light systems

14:40	15:00	S. Nath	IUAC	Investigation of deep sub-barrier fusion in asymmetric systems
15:00	15:20	B. Andel	Comenius U. Bratislava	Beta-delayed fission of laser-ionized isomers in 188Bi and recent β-delayed fission experiments at ISOLDE (CERN)
15:20	15:40	D.T. Kattikat-Melcom	Bordeaux	Probing the new island of asymmetric fission in the 180Hg region by means of fusion-fission reactions
15:40	16:10	Coffee Break		
		Session 13	Chair: L. Guo (UCAS)	
16:10	16:30	J. Buete	ANU	Systematic Measurements of Mass-Asymmetric Fission in the Pre-actinides: 144Gd to
16:30	16:50	K. Okada	Kansai	Fission dynamics with five-dimensional Langevin equation using generalized Cassini ovals
16:50	17:10	K. Washiyama	Tsukuba	Microscopic description of spontaneous fission in nuclear energy density functionals
17:10	17:30	K. Uzawa	Kyoto	Microscopic description of induced fission in a configuration-interaction approach

Friday, November 24, 2023

		Session 14	Chair: C. Simenel (ANU)	
9:00	9:30	E. Simpson	ANU	Interplay of breakup and fusion in near-barrier collisions of weakly-bound nuclides
9:30	9:50	K.S. Choi	Korea Aerospace U.	Analysis of fusion reactions including weakly-bound nuclei
9:50	10:10	L.T. Bezzina	ANU	Exponential suppression of fusion at above-barrier energies
10:10	10:40	Coffee Break		
		Session 15	Chair: X.D. Tang (IMP)	
10:40	11:10	A. Di Pietro	INFN-LNS	Hints of quasi-molecular states in 13B studied via 9Li-4He elastic scattering
11:10	11:30	N. Zhang	IMP	Measurements of fusion cross sections using an active-target Time Projection Chamber
11:30	11:50	Y. Iwata	Osaka U. of Econo. and	Proton and neutron density distributions, asymmetry, Coulomb and symmetry-energy effects from low- to medium energy collisions of light to heavy systems
		Session 16	Chair: K. Nishio	
11:50	12:30	Closing		Best talk and poster awards, Announcement of FUSION26, etc.

Poster presentations

A. Agarwal	MJPR	Exploring effect of entrance channel parameter on incomplete fusion in the 16O + 89Y system + Probing entrance channel effects in alpha induced reactions: An exclusive study of pre-equilibrium reaction dynamics

M.J. Basson	MSU	Breakup and Incomplete Fusion Mechanisms of 7Be + 208Pb Reactions
J. Bielecki	Inst. of Nucl. Phys. Polish Academy of Sci.	Atomic models for description of high-Z impurities dynamics in tokamak plasmas – summary of 'HARMONIA' project
P. Chen	Yangzhou U.	Reaction dynamics of synthesis mechanism of superheavy nuclei in fusion-evaporation
X.Q. Deng	ITP	Examination of promising reactions with 241Am and 244Cm targets for the synthesis of new superheavy elements within the dinuclear system model with a dynamical potential energy
T. Fumimoto	Kansai	Spreading width converted from optical potential for α cluster incident scattering
K. Heo	Soongsil U.	Study on the Supression of Elastic Scattering of Exotic Nuclei Using anExtended Optical
N. Hinohara	Tsukuba	Local QRPA inertia for symmetric-asymmetric fission dynamics
S. Jain	TIET	Implication of compact configuration of hexadecapole deformed actinides in the synthesis of superheavy nuclei
D. Kumar	GSI	Investigation of translead nuclides produced from 136Xe+209Bi/natPb to study the multinucleon transfer reaction process
G.S. Li	IMP	Study on the fusion reactions of 9Be with 181Ta, 89Y, and 197Au
J.T. Li	CNS	Development of a mosaic-type detector array based on Si photodiodes for charged particle detection
T. Maeda	Kansai	Comprehensive treatment of shell and cluster models for α resonant scattering
H. Maekawa	Kindai	Analysis for the shell effect of fission fragments in the quasi-fission process in superheavy mass region
J.T. Majekodunmi	UniMAP	Medium-dependent relativistic NN potential in alpha radioactivity
M. Matsumoto	Tohoku	Non-empirical description of nuclear collective motion with optimized basis for multi-reference density functional theory
M. Malvika	Roorkee	Sub-barrier fusion in 28,30Si induced reactions with medium mass targets
Y. Mukobara	Tokyo Tech.	Fission trajectory analysis using ML techniques
K. Nakajima	Kindai	Alpha-decay measurement of evaporation residues produced in multinucleon transfer reactions and separated by JAEA-Recoil mass separator
T. Nakatsukasa	Tsukuba	Local alpha strength functions and alpha knockout reactions
S. Nath	IUAC	Coupled reaction channel analysis for proton transfer in 116Sn+ 60Ni
S. Nishikawa	Kindai	Theoretical estimation of synthesizing superheavy nuclei using neutron rich targets
S. Oryu	Tokyo U. Sci.	Nuclear mutation of molecular CsH2 eigenvalues in Pd12's Coulomb field
J. Pei	Peking	Dynamical fluctuations, dissipation coefficients and energy dependencies in TD-BCS for nuclear fission
S. Rana	TIET	Nuclear incompressibility of Sn-isotopes and its impact on nuclear fusion dynamics
K. Rani	VECC	Study of effect of transfer coupling on quasi-elastic barrier distribution of 16O + 144Sm
K. Sakanashi	Osaka	Measurement of the γ decay probability of the Hoyle state
W.Y. So	Kangwon Natio	The number of virtual photon by the Coulomb excitation
C. Song	PNU	The application of the Langevin method for estimating fission from proton-induced 238U
F. Suzaki	JAEA	Measurement of evaporation residues produced in the multinucleon transfer reaction using a Recoil Mass Separator

S. Takagi	Kindai	Analysis of the kinetic energy of fission fragments using dynamical model
X. Yuan	Fermi lab.	Current status of the high field cable test facility at Fermilab
Y. Qiang	Beijing	Microscopic study of fission dynamics: dissipation, fluctuation and entanglement