

Critical stability

Monday 13 October 2008 - Friday 17 October 2008

**Ettore Majorana Centre for Scientific Culture
Programme**

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Monday 13 October 2008

Welcome; Nuclei I (09:00-13:00)

Welcome address; first talks on nuclear physics

time	[id] title	presenter
09:00	[55] Welcome address	Prof. MARTIN, André
09:20	[51] Few-body reactions in nuclear astrophysics	Prof. GARRIDO, Eduardo
09:55	[19] Few-Body Approaches and Problems in Hypernuclei	Prof. GAL, Avraham
10:30	break	
10:45	[37] The ab initio no-core shell model	Dr. FORSSÉN, Christian
11:20	[58] Consistent α -cluster description of the Hoyle state in ^{12}C	Prof. O. I. KARTAVTSEV, Oleg

Surface and scattering (15:00-20:00)

time	[id] title	presenter
15:00	[29] The physics of long-range atom-surface interactions and its applications	Prof. DUCLOY, Martial
15:35	[21] Poincaré Invariant Three-Body Scattering	Prof. ELSTER, Charlotte
16:10	[52] Challenges and achievements in the ab-initio three- and four-body scattering calculations: the Coulomb force	Dr. DELTUVA, Arnoldas
16:45	break	
17:00	[27] How to model p-scattering using point interactions and related three-body problems	Dr. KURASOV, Pavel
17:35	[60] Feshbach resonances in ultracold atomic gases	Dr. BRUUN, Georg Bruun

Tuesday 14 October 2008

Nuclei-II: Nuclei-II; Coulomb scattering (09:00-13:00)

time	[id] title	presenter
09:00	[33] Four-body nuclear systems	Dr. VIVIANI, Michele
09:35	[6] Three-body force effects in few-nucleon systems	Prof. KIEVSKY, alejandro
10:10	[53] Light nuclei in the continuum	Dr. MARQUÉS, Miguel
10:45	break	
11:00	[47] Solving the Coulomb scattering problem without using coulomb functions	Mr. VOLKOV, M.V.
11:35	[28] The driven Schroedinger approach to quantum scattering calculations	Prof. ELANDER, Nils

Clusters; resonances (15:00-20:00)

time	[id] title	presenter
15:00	[42] Interaction Blockade and Vortices in Atom Traps	Prof. REIMANN, Stephanie
15:35	[25] Two-boson correlations in various one-dimensional traps	Prof. OKOPINSKA, Anna
16:10	[43] Three-body decays of many-body resonances	Dr. ALVAREZ-RODRIGUEZ, Raquel
16:45	break	
17:00	[23] Theoretical investigation of the spectra of rotating trimers by means of a variational quantum method based in distributed Gaussian functions	Dr. GONZALEZ-LEZANA, Tomas
17:35	[66] Scattering processes in a framework of Faddeev approach	Prof. KOLGANOVA, Elena

Wednesday 15 October 2008

Mathematical physics; exotic atoms (09:00-12:10)

time	[id] title	presenter
09:00	[9] Can one bind three electrons with a single proton	Mr. DUCLOS, Pierre
09:35	[62] Relativistic Hydrogen in Strong Magnetic Fields	Prof. BRUMMELHUIS, Raymond
10:10	[45] A Mathematical Theory for Vibrational Levels Associated with Hydrogen Bonds	Prof. JOYE, Alain
10:45	break	
11:00	[41] Binding in some few-body systems containing antimatter	Prof. ARMOUR, Edward G.A.
11:35	[31] Experimental low energy antiproton physics	Prof. WIDMANN, Eberhard

Excursion (12:20-18:20)

Thursday 16 October 2008

Hadrons (09:00-12:10)

time	[id] title	presenter
09:00	[49] New nuclear three-body clusters $\phi N N$	Prof. BELYAEV, Vladimir B.
09:35	[35] Variational calculations for K-few-nucleon systems	Prof. WYCECH, Slawomir
10:10	[54] A journey through exotica in hadronic physics	Prof. SETH, Kam
10:45	break	
11:00	[50] Boundary-condition-determined wave functions, and their nodal structure, for few-electron atomic systems	Prof. BRESSANINI, Dario
11:35	[16] Microscopic Description of Few-Body Systems in the Fermionic Molecular Dynamics Approach	Dr. NEFF, Thomas

T1 (15:00-19:10)

time	[id] title	presenter
15:00	[11] Four-quark stability	Dr. VIJANDE, Javier
15:35	[32] Proof of stability of tetraquarks in a minimal-path model of linear confinement	Prof. RICHARD, Jean-Marc
16:10	[38] Universality in low-energy few-body systems and leading corrections	Dr. PLATTER, Lucas
16:45	break	
17:00	[57] Few-body Physics in Ultracold Gases: The Role of Efimov Physics	Dr. D'INCAO, Jose
17:35	[48] Few-body physics with ultracold Cs atoms and molecules	Dr. FERLAINO, Francesca
18:10	[67] Multiple scattering of light in cold atoms : from light localisation to plasma physics	KAISER, Robin

Friday 17 October 2008

T2 (09:00-12:10)

time	[id] title	presenter
09:00	[24] Spin solvent effects in doped helium clusters: A microscopic manifestation of superfluidity	Prof. VILLARREAL, PABLO
09:35	[46] On the determination of the parameters of quantum resonances: theory and experiment	FEDOROV, Dmitri
10:10	[39] Highly excited bound states and near-threshold resonances in ozone isotope effect	Prof. GREBENSHCHIKOV, Sergy Yu.
10:45	break	
11:00	[30] Virtual states, halos and resonances in three-body atomic and nuclear systems	Prof. FREDERICO, Tobias
11:35	[40] Multiparticle interactions of zero-range potentials	MACEK, Joseph

T3 (15:00-19:00)

time	[id] title	presenter
15:00	[8] Behavior of Wave Functions near the Thresholds.	Dr. GRIDNEV, Dmitry
15:35	[20] The Hyperspherical Harmonic method for a A-body system without permutation symmetry	Dr. GATTOBIGIO, Mario
16:10	[12] Scattering states of three-body systems with the Hyperspherical Adiabatic method	Dr. BARLETTA, Paolo
16:45	break	
17:00	[14] Theory of Classical and Quantum Reaction Dynamics in Multidimensional Systems	Prof. WAALKENS, Holger
17:35	[10] Efimov Effect in 2-Neutron Halo Nuclei	Dr. MAZUMDAR, Indranil
18:10	[64] Discussion: workshop summary, next workshop	

Banquet (20:00-21:40)