

Key Reactions in Nuclear Astrophysics

Report of Contributions

Contribution ID: 1

Type: **not specified**

Nuclear Astrophysics With (Fast) AT-TPCs at the High Intensity Frontiers

Thursday, 15 December 2022 14:30 (40 minutes)

Presenter: GAI, Moshe (University of Connecticut)

Session Classification: Afternoon Session -1

Contribution ID: 2

Type: **not specified**

Exploring neutron induced reactions of astrophysical interest via THM

Tuesday, 13 December 2022 14:30 (40 minutes)

Presenter: LAMIA, Livio (INFN-LNS & UniCT)

Session Classification: Afternoon Session -1

Contribution ID: 3

Type: **not specified**

Directed, Acyclic Reaction Networks and Applications to Isotopic Abundances in Meteorites and Metal-Poor Stars

Thursday, 15 December 2022 10:00 (40 minutes)

Presenter: MEYER, Bradley (Clemson University)

Session Classification: Morning Session -1

Contribution ID: 5

Type: **not specified**

Key (nuclear) reactions for astroparticle studies

Tuesday, 13 December 2022 09:30 (40 minutes)

Presenter: STRANIERO, Oscar (INFN)

Session Classification: Morning Session -1

Contribution ID: 6

Type: **not specified**

Neutron-induced reactions using the TexAT TPC: neutron inelastic upscattering in ^{12}C

Thursday, 15 December 2022 12:00 (40 minutes)

Presenter: BISHOP, Jack (Texas A&M University)

Session Classification: Morning Session -2

Contribution ID: 7

Type: **not specified**

$9\text{C}+9\text{Be}$ optical potential

Tuesday, 13 December 2022 11:20 (40 minutes)

Presenter: BONACCORSO, Angela (INFN Sezione di Pisa)

Session Classification: Morning Session -2

Contribution ID: 8

Type: **not specified**

Key nuclear reactions: a stellar modeler perspective

Tuesday, 13 December 2022 10:10 (40 minutes)

Presenter: CRISTALLO, Sergio (INAF - Osservatorio Astronomico d'Abruzzo)

Session Classification: Morning Session -1

Contribution ID: 9

Type: **not specified**

Key reaction studies for s-process in massive stars using transfer reactions

Thursday, 15 December 2022 11:20 (40 minutes)

Presenter: HAMMACHE, Fairouz (IJCLab)

Session Classification: Morning Session -2

Contribution ID: **10**

Type: **not specified**

LUNAMV

Wednesday, 14 December 2022 09:30 (40 minutes)

Presenter: IMBRIANI, Gianluca (University of Naples Federico II)

Session Classification: Morning Session -1

Contribution ID: 11

Type: **not specified**

Key nuclear reactions for explosive nucleosynthesis in BBN, SNe and neutron star mergers

Presenter: KAJINO, Toshitaka (Beihang University/NAOJ/University of Tokyo)

Session Classification: Morning Session -1

Contribution ID: 12

Type: **not specified**

Precision studies with stored exotic nuclei in the realm of nuclear astrophysics

Friday, 16 December 2022 10:10 (40 minutes)

Presenter: LITVINOV, Yury (GSI Darmstadt)

Session Classification: Morning Session -1

Contribution ID: 13

Type: **not specified**

$^{17}\text{O}+\text{p}$ and $^{26}\text{Al}+\text{p}$ reaction rates, H-burning and stellar masses

Monday, 12 December 2022 10:20 (40 minutes)

Presenter: PALMERINI, Sara (INFN Perugia & University of Perugia)

Session Classification: Morning Session -1

Contribution ID: 15

Type: **not specified**

$^{16}\text{O}(e,e'\alpha)^{12}\text{C}$ reaction: a new way to improve the precision of the $^{12}\text{C}(a,g)^{16}\text{O}$ astrophysical S-factor

Thursday, 15 December 2022 15:10 (40 minutes)

Presenter: FRIŠČIĆ, Ivica (University of Zagreb)

Session Classification: Afternoon Session -1

Contribution ID: 16

Type: **not specified**

The never ending interplay between the stellar energy sources and the chemical evolution of the Universe: from the first hypothesis of Von Helmholtz to BBFH

Monday, 12 December 2022 09:40 (40 minutes)

Presenter: CHIEFFI, Alessandro (INAF & INFN)

Session Classification: Morning Session -1

Contribution ID: 17

Type: **not specified**

New frontiers in nuclear astrophysics using indirect techniques: the Trojan horse method

Monday, 12 December 2022 11:40 (40 minutes)

Presenter: LA COGNATA, Marco (INFN-LNS)

Session Classification: Morning Session -2

Contribution ID: **18**

Type: **not specified**

Experimental results on $^{12}\text{C}+^{12}\text{C}$ fusion reaction with Stella

Monday, 12 December 2022 12:20 (40 minutes)

Presenter: HEINE, Marcel (Université de Strasbourg, CNRS, IPHC UMR 7178, F-67000 Strasbourg)

Session Classification: Morning Session -2

Contribution ID: 19

Type: **not specified**

Study of ion-ion fusion mechanisms at sub-barrier energies for nuclear astrophysics

Monday, 12 December 2022 14:30 (40 minutes)

Presenter: SPIRIDON, Alexandra (“Horia Hulubei” National Institute for Physics and Nuclear)

Session Classification: Afternoon Session -1

Contribution ID: 20

Type: **not specified**

Direct measurement of the $^{19}\text{F}(p,a)^{16}\text{O}$ reaction at astrophysical energies using silicon strip detector arrays

Monday, 12 December 2022 15:10 (40 minutes)

Presenter: GUARDO, Giovanni Luca (INFN-LNS)

Session Classification: Afternoon Session -1

Contribution ID: 21

Type: **not specified**

High-precision mass measurements for nuclear astrophysics

Monday, 12 December 2022 16:20 (40 minutes)

Presenter: MOUGEOT, Maxime (University of Jyväskylä)

Session Classification: Afternoon Sessione -2

Contribution ID: 22

Type: **not specified**

Search for Supernova R-process Actinides in Fossilized Reservoirs

Monday, 12 December 2022 17:00 (40 minutes)

Presenter: STANCIU, Iuliana (IFIN-HH, TUM)

Session Classification: Afternoon Sessione -2

Contribution ID: 23

Type: **not specified**

Calculation of light nuclei sub-barrier fusion cross section in an imaginary time-dependent mean field theory

Tuesday, 13 December 2022 12:00 (40 minutes)

Presenter: BONASERA, Aldo (Texas A&M,USA and LNS-INFN, Italy)

Session Classification: Morning Session -2

Contribution ID: 24

Type: **not specified**

ANC method for nuclear astrophysics: from early to late stages nucleosynthesis

Tuesday, 13 December 2022 15:10 (40 minutes)

Presenter: D'AGATA, Giuseppe (Università degli Studi di Catania - Dipartimento di Fisica e Astronomia "Ettore Majorana" & Laboratori Nazionali del Sud - LNS INFN)

Session Classification: Afternoon Session -1

Contribution ID: 25

Type: **not specified**

Status and progress of the PANDORA plasma trap: a facility to investigate on atomic and nuclear inputs for key nucleosynthesis branchings

Tuesday, 13 December 2022 16:20 (40 minutes)

Presenter: PIDATELLA, Angelo (INFN - LNS)

Session Classification: Afternoon Session -2

Contribution ID: 26

Type: **not specified**

Numerical estimation of in-laboratory plasma opacity resembling KN plasma ejecta in the framework of the PANDORA project

Tuesday, 13 December 2022 17:00 (40 minutes)

Presenter: BEZMALINOVICH, Matteo (Ph.D. student INAF-OAAb e Università Sapienza Roma)

Session Classification: Afternoon Session -2

Contribution ID: 27

Type: **not specified**

Future studies of the $^{14}\text{N}(p,g)^{15}\text{O}$ reaction at LNGS

Wednesday, 14 December 2022 10:10 (40 minutes)

Presenter: CACIOLLI, Antonio (UNIPD and INFN)

Session Classification: Morning Session -1

Contribution ID: 28

Type: **not specified**

Key nuclear reactions investigated at LUNA - 400 kV

Wednesday, 14 December 2022 11:50 (40 minutes)

Presenter: DEPALO, Rosanna (Università degli Studi di Milano and INFN Milano)

Session Classification: Morning Session -2

Contribution ID: 29

Type: **not specified**

($^{22}\text{Ne}(\text{a},\text{n})$) Measurement of $^{22}\text{Ne} + \text{alpha}$ reactions at LUNA MV

Wednesday, 14 December 2022 11:10 (40 minutes)

Presenter: BEST, Andreas (University of Naples Federico II)

Session Classification: Morning Session -2

Contribution ID: **30**

Type: **not specified**

Nuclear Astrophysics at the Felsenkeller

Thursday, 15 December 2022 16:20 (40 minutes)

Presenter: MASHA, Eliana (Helmholtz-Zentrum Dresden-Rossendorf e.V. (HZDR))

Session Classification: Afternoon Session -2

Contribution ID: 31

Type: **not specified**

Laser induced Coulomb explosions in the plasma

Thursday, 15 December 2022 17:00 (40 minutes)

Presenter: LATTUADA, Dario

Session Classification: Afternoon Session -2

Contribution ID: 32

Type: **not specified**

Studies on RI-involving astrophysical reactions with CRIB

Friday, 16 December 2022 09:30 (40 minutes)

Presenter: YAMAGUCHI, Hidetoshi (Center for Nuclear Study, the University of Tokyo)

Session Classification: Morning Session -1

Contribution ID: 33

Type: **not specified**

Nuclear astrophysics with radioactive ion beams at CIRCE: ${}^7\text{Be}(p,\gamma){}^8\text{B}$

Friday, 16 December 2022 11:20 (40 minutes)

Presenter: GIALANELLA, Lucio (DMF Università della Campania e Istituto Nazionale di Fisica Nucleare)

Session Classification: Morning Session -2

Contribution ID: 34

Type: **not specified**

Welcome | Gert Aarts (ECT* Director)

Session Classification: Morning Session -1

Contribution ID: 35

Type: **not specified**

Welcome by the organizers

Monday, 12 December 2022 09:25 (15 minutes)

Session Classification: Morning Session -1