

Multi-line Diagnostics of the Interstellar Medium

Last update: April, 5, 2022

Invited talk

Large Program talk

CHAIR

Time

Monday, 4 April 2022

Speaker

V. ARUMUGAM

08:15 - 09:00	Registration	
09:00 - 09:10	Welcome	
09:10 - 09:30	Status of IRAM observations	Karl SCHUSTER Roberto NERI
09:30 - 09:55	Understanding PDRs through multiline diagnostics	J. GOICOECHA, presented by F. LE PETIT
09:55 - 10:10	HCN/HNC intensity ratio: a new chemical thermometer for the molecular ISM	A. HACAR, presented by S. SURI
10:10 - 10:30	Gas phase Elemental abundances in Molecular clouds (GEMS)	Asuncion FUENTE

C. KRAMER

10:30 - 11:00	Coffee break	
11:00 - 11:25	Isotopic ratios and fractionation in the local Universe	Serena VITI
11:25 - 11:45	The IRAM 30m Nearby Galaxy Dense Gas Survey EMPIRE	F. BIGIEL pres. by Maria J. Jimenez Donaire
11:45 - 12:00	Probing the link between molecular clouds, star formation, and environment in nearby galaxies with multi-transition observations of dense gas tracers	Antonio USERO

F. STANLEY

12:00 - 13:30	Lunch break	
13:30 - 13:55	Modeling Star Formation and ISM Dynamics	Ralf KLESSEN
13:55 - 14:15	A Cloud-Scale View of the Molecular Gas Disk in the Whirlpool Galaxy	Eva SCHINNERER
14:15 - 14:30	Characterising the ISM of low metallicity galaxies: Quantifying the CO-dark gas reservoir with C+	Suzanne MADDEN
14:30 - 14:45	IRAM 30m CLAWS Survey: New insights from a comprehensive multi-CO line mapping campaign	Jacob DEN BROK
14:45 - 15:00	Simulating the ISM diagnostics using probability distributions of physical parameters	Thomas BISBAS
15:00 - 15:15	ALCHEMI: Results from the ALMA Comprehensive High-resolution Extragalactic Molecular Inventory of NGC253	Jeff MANGUM, presented by S. VITI
15:15 - 15:30	Gas condensation in Brightest Group Galaxies unveiled with MUSE	Valeria OLIVARES

B. MANCILLAS

15:30 - 16:40	Coffee break & poster session	
16:40 - 17:05	Modelling of turbulent ISM and corresponding molecular tracers	Patrick HENNEBELLE
17:05 - 17:20	Multi-scale dynamics in star-forming regions: the interplay between gravity and turbulence	Alessio TRAFICANTE
17:20 - 17:35	Submillimeter imaging of the Galactic Center starburst Sgr B2	Miriam G. SANTA-MARIA
17:35 - 17:50	Dynamically-regulated star formation in the strongly interacting Taffy galaxies	Axel GARCIA-RODRIGUEZ

Tuesday, 5 April 2022

L. BOUSCASSE

08:50 - 09:15	Astrochemistry at the dawn of star and planet formation	Paola CASELLI
09:15 - 09:30	The Cygnus Clouds to Cores Observing Program (CASCADE)	F. WYROWSKI, presented by H. BEUTHER
09:30 - 09:45	A complete 3mm line survey of the B1-b and TMC-1 cores	Nuria MARCELINO
09:45 - 10:00	Multi-line characterization of whole molecular clouds using stratified random sampling	Mario TAFALLA
10:00 - 10:15	Observable tracers of the ionization fraction	Emeric BRON
10:15 - 10:45	Coffee break	

S. BERTA

10:45 - 11:10	Significance and evolution of molecular gas during the star formation noon	Reinhard GENZEL
11:10 - 11:25	The rich molecular inventory of two dusty galaxies twelve billion years ago	Chentao YANG
11:25 - 11:40	Gas properties in the Early Universe deciphered from spectral line surveys of high-z objects: the Cloverleaf quasar	Michel GUELIN
11:40 - 11:55	Probing ISM properties and AGN feedback in the nearby Universe with IRAM and ALMA	Manuela BISCHETTI
11:55 - 12:15	z-GAL: A Comprehensive Redshift Survey of the Brightest Herschel Galaxies	Pierre COX

L. CHAHINE

12:15 - 13:45	Lunch break	
13:45 - 14:10	Molecular richness in protostars: lessons learnt from spectral observations	Ana LOPEZ SEPULCRE
14:10 - 14:25	Feeding a Protostar with 10,000 au Scale Streamers	Jaime PINEDA
14:25 - 14:40	Interstellar complex organic molecules in the prototypical Class I protostar SVS13-A: from large scales to planet forming disks	Eleonora BIANCHI
14:40 - 15:05	Molecules from evolved stars and their role in the cycle of the ISM	Marcelino AGUNDEZ
15:05 - 15:20	Multi-line diagnostics of the axi-symmetric wind around the MS-type AGB star RS Cancr	Jan-Martin WINTERS
15:20 - 15:35	The Galactic dynamics revealed by the filamentary structure in the atomic and molecular emission toward the Milky Way's disk	Juan D. SOLER

E. CHAPILLON

15:35 - 16:45	Coffee break & poster session	
16:45 - 17:05	Fragmentation and disk formation in high-mass star formation: The NOEMA large program CORE	Henrik BEUTHER
17:05 - 17:20	Photodissociation regions associated with massive dense dust clumps	Wonju KIM
17:20 - 17:35	The Sulphur depletion problem in molecular clouds: the H2S case	David NAVARRO
17:35 - 17:50	Investigation of the "dense gas tracers" within a massive star forming region	Ashley BARNES
17:50 - 18:05	Nitrogen isotopes in the interstellar medium: A chemical journey across the Galaxy	Laura COLZI
20:00	Conference dinner NEGRESCO	

Wednesday, 6 April 2022

K. BUTLER

08:50 - 09:15	Feedback from young stars, the molecular signature of shocks and outflows	Antoine GUSDORF
09:15 - 09:30	Shocks in the surroundings of the NGC 1333 IRAS 4 system	Marta DE SIMONE
09:30 - 09:45	Are jets ubiquitous in young forming stars? CALYPSO IRAM-PdBI survey of jets in Class 0/I protostars	Linda PODIO
09:45 - 10:10	Challenges to Molecular Astrophysics and their Data Bases	Stephan SCHLEMMER

S. ANTONELLINI

10:10 - 10:40	Coffee break	
10:40 - 11:05	Chemical richness of protoplanetary disks and related physical properties	Anne DUTREY
11:05 - 11:20	Chemical, morphological and dynamical study of circumstellar material in AB Aur.	Pablo RIVIERE, presented by A. FUENTE
11:20 - 11:35	QUIJOTE: Q-band Ultrasensitive Inspection Journey to the Obscure TMC-1 Environment	José CERNICHAO
11:35 - 11:50	Tracing episodic accretion with NOEMA: FU Orionis-type stars and their millimeter environment	Orsolya FEHER
11:50 - 12:15	Searching for the t=0 of Planetary System Formation	Edwin BERGIN

V. ARUMUGAM

12:15 - 13:45	Lunch break	
13:45 - 14:10	Water Silhouettes against the Cosmic Microwave Background from the Most Distant Starburst Galaxies	Dominik RIECHERS
14:10 - 14:25	Unveiling the multiphase ISM of z>6 quasar host galaxies with ALMA and NOEMA	Antonio PENSABENE
14:25 - 14:40	CH+(1-0) in z~2-4 starburst galaxies: probes of multi-phasic turbulent gas reservoirs	Alba VIDAL GARCIA
14:40 - 14:55	The Interstellar and Circumgalactic Media at low and high redshift as traced by Atomic Carbon and Carbon Monoxide	Paola ANDREANI
14:55 - 15:15	The Evolution of Molecular Gas and Star Formation from z=0 to 2.5: Results from the PHIBSS Large Programs and a Forward Look to NOEMA3D	Linda TACCONI

V. de SOUZA

15:15 - 15:45	Coffee break	
15:45 - 16:10	Molecular gas dynamics around nuclei of galaxies	Françoise COMBES
16:10 - 16:30	Astrophysics meets data science in the Orion B Giant molecular cloud	Jérôme PETY
16:30 - 16:50	Wrap-up & Conclusions	Linda TACCONI, Franck LE PETIT, Karl SCHUSTER