Nuclear Spin Effects in Astrochemistry // Program
May 2nd-4th 2017, IPAG, Grenoble

Talks + Questions = 30 min // Forsee at least 5 min for questions

Tuesday, 2nd
Tuesday, Afternoon session – OPR of water

13:50–14:00 A. Faure Welcome & Introduction
14:00–14:30 H. Schmiedt Nuclear spin states in molecules: unified rotational and permutational symmetry and selection rules in reactive collisions
14:30–15:00 T. Hama Spin dynamics of water ice and the OPR of gaseous water desorbed from ice
15:00–15:20 Coffee break
15:50–16:20 R. Georges Nuclear spin symmetry conservation in H₂O investigated by direct absorption FTIR spectroscopy of water vapor cooled down in supersonic expansion
16:20–16:50 D. Lis The OPR in Interstellar Water
17:20–18:00 Discussion; Chair: Eva Wirström

Tuesday, Evening – Social event
18:30 Cocktail at IPAG

Wednesday, 3rd
Wednesday, Morning session – OPR of H₂

8:30–9:00 D. Gerlich Nuclear spin restrictions in gas phase reactions: more experiments are needed!
9:00–9:30 P. Hily-Blant Steady-state nuclear spin chemistry in dark clouds
9:30–10:00 Coffee break
10:00–10:30 T. Gonzales-Lezana Ortho-para H₂ conversion by proton exchange in astrophysical media from 10 K to 3000 K
10:30–11:00 K. Fukutani Rotational state and ortho-para conversion of H₂ on solid surfaces
11:00–11:30 E. Bron The OPR of H₂: the role of dust grains
11:30–12:00 Discussion; Chair: John Black

Lunch: Buffet
Wednesday, Afternoon session – OPR of H$_3^+$ and organics

14:00–14:30 O. Roncero  
Ortho/para conversion of H$_3^+$ in collisions with H$_2$ and H

14:30–15:00 K. Crabtree  
The OPR of the trihydrogen cation in diffuse molecular clouds

15:00–15:20
Coffee break

15:20–15:50 X. Michaut  
What do we know about time scales for the nuclear spin conversion in molecular ices and at the solid-gas interface?

15:50–16:20 O. Sipilä  
Spin states of H$_2$D$^+$ and D$_2$H$^+$ as chemical age tracers

16:20–16:50 G. Villanueva  
Do spin temperatures differ between molecules in comets? The case for H$_2$O, CH$_4$, NH$_3$, C$_2$H$_6$, and CH$_3$OH

16:50–17:20 Discussion; Chair: Darek Lis

Wednesday, Evening – Social event

17:30 Leaving IPAG (Tram B, stop: Museum station)
18:00 Visit of Grenoble Museum or Bastille
20:00 Dinner at “le 5”

Thursday, 4th

Thursday, Morning session – OPR of other hydrides

8:30–9:00 J. Harju  
Spin-state chemistry of deuterated ammonia

9:00–9:30 H. Kawakita  
Nuclear Spin Isomers in Cometary Molecules: Survey for Ortho-to-Para Ratios of Ammonia in Comets

9:30–10:00 Coffee break

10:00–10:30 S. Charnley  
Spin Effects in Molecular Clouds

10:30–11:00 R. Le Gal  
OPRs as powerful interstellar diagnostics

11:00–11:30 D. Neufeld  
OPR measured for triatomic hydrides in the diffuse ISM

11:30–12:00 Discussion; Chair: Evelyne Roueff

Lunch: Buffet