

General discussion (1)

Achievements and future challenges

General discussion

November 8-9th 2017

- Chemistry
 - several revisions of nitrogen chemistry, measurements of neutral-neutral reactions
 - revision of fractionation reactions
 - several chemical fractionation networks
 - selective photodissociation of N_2
- Observations: broad range of objects; (cores, protostars, disks, low- to high-mass; increased statistics)
- Measurements
 - collision rate coefficients: HCN, N_2H^+ , NO, HC_3N
 - direct measurement of HCN/ $HC^{15}N$ in L1498 thanks to new HCN- H_2 cross sections at hf level
- what else ?

- Observations:
 - Uncertainties: down to calibration-limited accuracy
 - Direct measurements (vs double isotopic-method)
 - Increase statistics with homogeneous sample and method
 - Diffuse measurements: need more
 - Spatial information is crucial
- Chemistry (theory and experiments)
 - interstellar fractionation: yes or not ?
 - N_2H^+ ?
 - chemistry of nitrogen: N, N_2 ? benchmark needed
 - ^{14}N - ^{15}N exchanges in ices ?
- Modelling
 - nitrogen as a key to investigate the origin of cometary ices
 - chemical models: from cores to PSN analogs
 - radiative transfer: coll. cross sections $\text{H}^{13}\text{C}_3\text{N}$, HC_3^{15}N , etc