Basecol Database (basecol.obspm.fr)

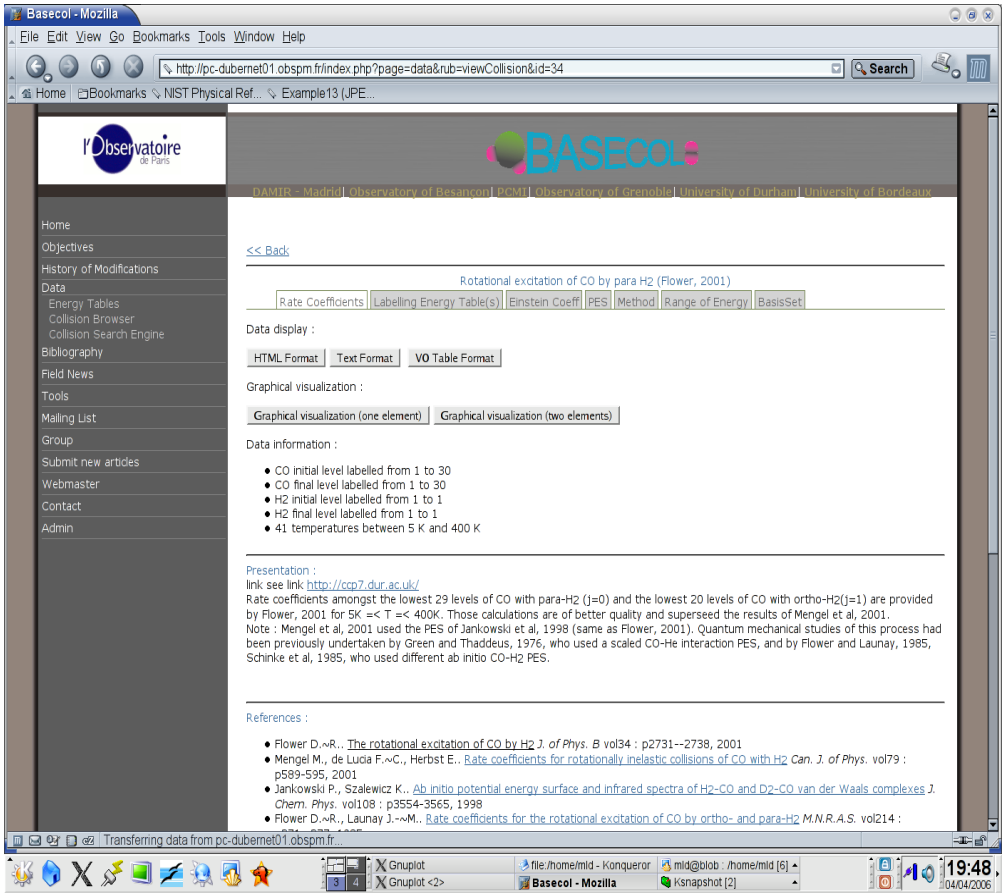
Implementation: N. Moreau, G. Souesmes, B. Debray

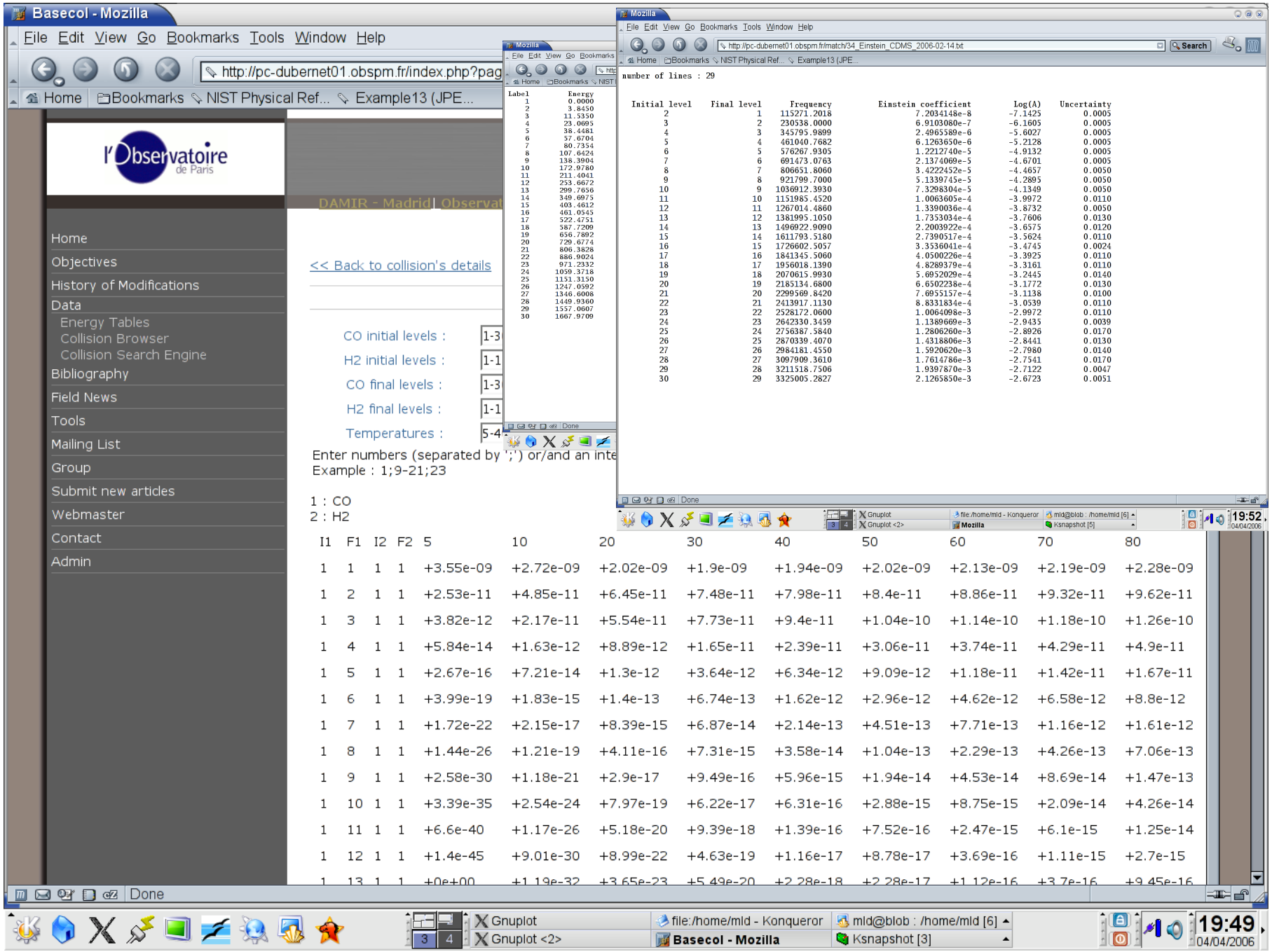
Design: M.L. Dubernet

FP6:"Molecular Universe" Collaboration Corresponds to a Need for Community

Linked to CDMS and JPL

- Published (de)-excitation rate coefficients
  - Rotational (fine, hyperfine), Ro-vib., Vib.
  - Currently: 21 Target molecules; Perturbers : He, H, H_2
  - 119 collisional systems
  - Fully documented and referenced (630 ref.)
  - Fitting coefficients, visualisation tools
- Energy levels, Einstein coefficients, QN
- Fully checked and evaluated





Label	Energy
1	0.0000
2	3.8450
3	11.5350
4	23.0695
5	38.4481
6	57.6704
7	80.7354
8	107.6424
9	138.3904
10	172.9780
11	211.4041
12	253.6672
13	299.7656
14	349.6975
15	403.4612
16	461.0545
17	522.4751
18	587.7209
19	656.7892
20	729.6774
21	806.3828
22	886.9024
23	971.2332
24	1059.3718
25	1151.3150
26	1247.0592
27	1346.6008
28	1449.9360
29	1557.0607
30	1667.9709

Initial level	Final level	Frequency	Einstein coefficient	Log(A)	Uncertainty
2	1	115271.2018	7.2034148e-8	-7.1425	0.0005
3	2	230538.0000	6.9103080e-7	-6.1605	0.0005
4	3	345795.9899	2.4965589e-6	-5.6027	0.0005
5	4	461040.7682	6.1263650e-6	-5.2128	0.0005
6	5	576267.9305	1.2212740e-5	-4.9132	0.0005
7	6	691473.0763	2.1374069e-5	-4.6701	0.0005
8	7	806651.8060	3.4222452e-5	-4.4657	0.0050
9	8	921799.7000	5.1339745e-5	-4.2895	0.0050
10	9	1036912.3930	7.3298304e-5	-4.1349	0.0050
11	10	1151985.4520	1.0063605e-4	-3.9972	0.0110
12	11	1267014.4860	1.3390036e-4	-3.8732	0.0050
13	12	1381995.1050	1.7353034e-4	-3.7606	0.0130
14	13	1496922.9090	2.2003922e-4	-3.6575	0.0120
15	14	1611793.5180	2.7390517e-4	-3.5624	0.0110
16	15	1726602.5057	3.3536041e-4	-3.4745	0.0024
17	16	1841345.5060	4.0500226e-4	-3.3925	0.0110
18	17	1956018.1390	4.8289379e-4	-3.3161	0.0110
19	18	2070615.9930	5.6952029e-4	-3.2445	0.0140
20	19	2185134.6800	6.6502238e-4	-3.1772	0.0130
21	20	2299569.8420	7.6955157e-4	-3.1138	0.0100
22	21	2413917.1130	8.8331834e-4	-3.0539	0.0110
23	22	2528172.0600	1.0064098e-3	-2.9972	0.0110
24	23	2642330.3459	1.1389669e-3	-2.9435	0.0039
25	24	2756387.5840	1.2806260e-3	-2.8926	0.0170
26	25	2870339.4070	1.4318806e-3	-2.8441	0.0130
27	26	2984181.4550	1.5920620e-3	-2.7980	0.0140
28	27	3097909.3610	1.7614786e-3	-2.7541	0.0170
29	28	3211518.7506	1.9397870e-3	-2.7122	0.0047
30	29	3325005.2827	2.1265850e-3	-2.6723	0.0051

I1	F1	I2	F2	5	10	20	30	40	50	60	70	80
1	1	1	1	+3.55e-09	+2.72e-09	+2.02e-09	+1.9e-09	+1.94e-09	+2.02e-09	+2.13e-09	+2.19e-09	+2.28e-09
1	2	1	1	+2.53e-11	+4.85e-11	+6.45e-11	+7.48e-11	+7.98e-11	+8.4e-11	+8.86e-11	+9.32e-11	+9.62e-11
1	3	1	1	+3.82e-12	+2.17e-11	+5.54e-11	+7.73e-11	+9.4e-11	+1.04e-10	+1.14e-10	+1.18e-10	+1.26e-10
1	4	1	1	+5.84e-14	+1.63e-12	+8.89e-12	+1.65e-11	+2.39e-11	+3.06e-11	+3.74e-11	+4.29e-11	+4.9e-11
1	5	1	1	+2.67e-16	+7.21e-14	+1.3e-12	+3.64e-12	+6.34e-12	+9.09e-12	+1.18e-11	+1.42e-11	+1.67e-11
1	6	1	1	+3.99e-19	+1.83e-15	+1.4e-13	+6.74e-13	+1.62e-12	+2.96e-12	+4.62e-12	+6.58e-12	+8.8e-12
1	7	1	1	+1.72e-22	+2.15e-17	+8.39e-15	+6.87e-14	+2.14e-13	+4.51e-13	+7.71e-13	+1.16e-12	+1.61e-12
1	8	1	1	+1.44e-26	+1.21e-19	+4.11e-16	+7.31e-15	+3.58e-14	+1.04e-13	+2.29e-13	+4.26e-13	+7.06e-13
1	9	1	1	+2.58e-30	+1.18e-21	+2.9e-17	+9.49e-16	+5.96e-15	+1.94e-14	+4.53e-14	+8.69e-14	+1.47e-13
1	10	1	1	+3.39e-35	+2.54e-24	+7.97e-19	+6.22e-17	+6.31e-16	+2.88e-15	+8.75e-15	+2.09e-14	+4.26e-14
1	11	1	1	+6.6e-40	+1.17e-26	+5.18e-20	+9.39e-18	+1.39e-16	+7.52e-16	+2.47e-15	+6.1e-15	+1.25e-14
1	12	1	1	+1.4e-45	+9.01e-30	+8.99e-22	+4.63e-19	+1.16e-17	+8.78e-17	+3.69e-16	+1.11e-15	+2.7e-15
1	13	1	1	+0e+00	+1.19e-32	+3.65e-23	+5.49e-20	+2.28e-18	+2.28e-17	+1.12e-16	+3.7e-16	+9.45e-16

Automatic script to get data from Basecol: BASECOL Tool for MOLPOP (Implementation: N. Moreau, Design: M. Elitzur, ML Dubernet)

Script in Python, Use the SLAP service
Store the data in VOTable or in ascii files
Get all the collisions available in Basecol

Example of a query result :

File listing all downloaded collisions

```
List of available tables of collision rates. After five header lines,
each entry consists of three lines: name of the file containing the table,.
description of the data and a separator line


H2O-ortho_He_rotation.kij
Rotational excitation of ortho-H$_2$O by He (Green & al., 1993)
   ********************


CS_H2-para_rotation.kij
Rotational excitation of CS by para-H$_2$, 20K < T < 300K, lowest 21 levels (Turner & al, 1992)
   ********************


HCO+_H2-para_rotation.kij
Rotational excitation of HCO$^+$ by para-H$_2$, 10K < T < 400K (Flower, 1999)
   ********************


OCS_He_rotation.kij
Rotational excitation of OCS by He (Flower, 2001)
   ********************


HCl_He_hyperfine.kij
Excitation of the hyperfine levels of HCl by He (Neufeld & al. 1994)
   ********************


HF_He_rotation.kij
 Rotational excitation of HF(v=0) by He (Reese et al, 2005)
   ********************


H2CO-para_He_rotation.kij
Rotational Excitation of para-H$_2$CO by He (Green, 1991)
   ********************


H2CO-ortho_He_rotation.kij
Rotational Excitation of ortho-H$_2$CO by He (Green, 1991)
   ********************
```

N. Moreau

Einstein coefficients

Einstein coefficients A_ij for c-C3H2
Reference : JPL

i	j	A_ij....
2	1	4.2263065752e-07
3	1	2.55334550477e-05
4	2	7.46365079557e-05
4	3	3.80296644732e-06
5	3	7.67030052301e-05
6	4	7.44204214473e-05
6	5	1.0907409924e-05
7	3	6.49147849116e-05
7	6	3.51497796146e-06
8	5	0.0001800850413
9	4	0.000281274770668
9	5	4.09019577389e-07
9	7	1.07159096204e-06
10	6	0.000239338358103
10	8	2.46408072369e-05
10	9	3.8977132555e-07
11	8	0.000346901479579
12	5	8.90722201873e-05
12	7	0.000342485688259
12	10	1.67297462027e-05
13	6	0.000130700524776
13	8	1.45695026515e-07
13	9	0.000799273098548
13	12	7.57505463427e-06
14	10	0.000442683072
14	11	4.3505634887e-05
14	13	7.18729155496e-09
15	11	0.000593376026698
16	8	0.000125491181256
16	12	0.000457272678169
16	14	3.66887521178e-05
16	15	4.89008576098e-10
17	10	0.0002941249067
17	11	1.86320242591e-07
17	13	0.000177015839039
17	16	1.54060633156e-05
18	8	9.11569309474e-07
18	12	0.000661124626506
18	14	1.05257205244e-06
18	17	4.07161990011e-06
19	14	0.000742320443638

N. Moreau

Energy table

Rotational Excitation of ortho-cyclopropendyle by He (Chandra & al., 2000)
Reference : JPL

N	g	Energy in cm^{-1}	Level details....
1	9	1.6332	Ka=0 Kc=1 N=1 epsilon=-1 tau=-1
2	15	1.6332	Ka=1 Kc=0 N=1 epsilon=1 tau=1
3	15	2.2451	Ka=1 Kc=2 N=2 epsilon=-1 tau=-1
4	15	4.4798	Ka=2 Kc=1 N=2 epsilon=1 tau=1
5	21	4.4798	Ka=0 Kc=3 N=3 epsilon=-1 tau=-3
6	21	6.3153	Ka=1 Kc=2 N=3 epsilon=1 tau=-1
7	21	8.3875	Ka=2 Kc=1 N=3 epsilon=-1 tau=1
8	21	4.4798	Ka=1 Kc=4 N=4 epsilon=-1 tau=-3
9	21	11.155	Ka=3 Kc=0 N=3 epsilon=1 tau=3
10	27	8.3875	Ka=2 Kc=3 N=4 epsilon=1 tau=-1
11	21	6.3153	Ka=0 Kc=5 N=5 epsilon=-1 tau=-5
12	21	8.3875	Ka=3 Kc=2 N=4 epsilon=-1 tau=1
13	21	12.6262	Ka=4 Kc=1 N=4 epsilon=1 tau=3
14	27	11.155	Ka=1 Kc=4 N=5 epsilon=1 tau=-3
15	27	13.4194	Ka=1 Kc=6 N=6 epsilon=-1 tau=-5
16	27	13.5296	Ka=2 Kc=3 N=5 epsilon=-1 tau=-1
17	33	13.4194	Ka=3 Kc=2 N=5 epsilon=1 tau=1
18	27	8.3875	Ka=4 Kc=1 N=5 epsilon=-1 tau=3
19	27	12.6262	Ka=2 Kc=5 N=6 epsilon=1 tau=-3
20	27	17.3465	Ka=5 Kc=0 N=5 epsilon=1 tau=5
21	27	11.155	Ka=0 Kc=7 N=7 epsilon=-1 tau=-7
22	27	13.4194	Ka=3 Kc=4 N=6 epsilon=-1 tau=-1
23	27	13.5296	Ka=4 Kc=3 N=6 epsilon=1 tau=1
24	27	20.2037	Ka=1 Kc=6 N=7 epsilon=1 tau=-5
25	33	17.3465	Ka=1 Kc=8 N=8 epsilon=-1 tau=-7
26	33	19.5679	Ka=5 Kc=2 N=6 epsilon=-1 tau=3
27	33	22.3944	Ka=6 Kc=1 N=6 epsilon=1 tau=5
28	39	19.5679	Ka=2 Kc=5 N=7 epsilon=-1 tau=-3
29	33	13.4194	Ka=2 Kc=7 N=8 epsilon=1 tau=-5
30	33	20.2037	Ka=3 Kc=4 N=7 epsilon=1 tau=-1
31	33	24.6162	Ka=0 Kc=9 N=9 epsilon=-1 tau=-9
32	33	26.8337	Ka=4 Kc=3 N=7 epsilon=-1 tau=1
33	33	17.3465	Ka=5 Kc=2 N=7 epsilon=1 tau=3
34	33	19.5679	Ka=3 Kc=6 N=8 epsilon=-1 tau=-3
35	33	22.3944	Ka=6 Kc=1 N=7 epsilon=-1 tau=5
36	33	28.5113	Ka=7 Kc=0 N=7 epsilon=1 tau=7
37	33	13.4194	Ka=1 Kc=8 N=9 epsilon=1 tau=-7
38	33	20.2037	Ka=4 Kc=5 N=8 epsilon=1 tau=-1
39	33	24.6162	Ka=1 Kc=10 N=10 epsilon=-1 tau=-9
40	33	31.083	Ka=5 Kc=4 N=8 epsilon=-1 tau=1
41	39	24.6162	Ka=2 Kc=7 N=9 epsilon=-1 tau=-5
42	39	26.8337	Ka=6 Kc=3 N=8 epsilon=1 tau=3
43	39	31.083	Ka=2 Kc=9 N=10 epsilon=1 tau=-7
44	33	17.3465	Ka=7 Kc=2 N=8 epsilon=-1 tau=5
45	33	22.3944	Ka=0 Kc=11 N=11 epsilon=-1 tau=-11
46	33	28.5113	Ka=3 Kc=6 N=9 epsilon=1 tau=-3

Collision rates

Rotational Excitation of ortho-cyclopropendyle by He (Chandra & al., 2000)

Number of temperature columns : 4

I	J	Temperature (K).... 30	60	90	120
2	1	8.032e-12	8.321e-12	8.281e-12	8.16e-12
3	1	2.091e-11	2.096e-11	2.091e-11	2.098e-11
3	2	1.609e-12	1.895e-12	2.102e-12	2.17e-12
4	1	1.251e-11	1.33e-11	1.454e-11	1.581e-11
4	2	8.336e-12	8.54e-12	8.632e-12	8.6e-12
4	3	1.329e-11	1.33e-11	1.341e-11	1.357e-11
5	1	2.067e-12	2.334e-12	2.485e-12	2.526e-12
5	2	2.55e-11	2.346e-11	2.287e-11	2.284e-11
5	3	8.323e-12	8.103e-12	7.968e-12	7.822e-12
5	4	2.784e-12	3.241e-12	3.485e-12	3.607e-12
6	1	4.456e-12	3.715e-12	3.559e-12	3.529e-12
6	2	1.497e-12	1.363e-12	1.357e-12	1.331e-12
6	3	1.348e-11	1.381e-11	1.477e-11	1.582e-11
6	4	2.135e-11	2.109e-11	2.097e-11	2.098e-11
6	5	6.256e-12	6.754e-12	6.977e-12	7.066e-12
7	1	7.275e-12	6.789e-12	7.051e-12	7.442e-12
7	2	5.075e-13	5.046e-13	5.221e-13	5.291e-13
7	3	1.23e-11	1.193e-11	1.189e-11	1.19e-11
7	4	5.586e-12	6.061e-12	6.513e-12	6.91e-12
7	5	1.763e-12	2.053e-12	2.257e-12	2.382e-12
7	6	1.572e-11	1.647e-11	1.68e-11	1.708e-11
8	1	1.858e-11	1.498e-11	1.399e-11	1.366e-11
8	2	2.586e-12	2.673e-12	2.715e-12	2.728e-12
8	3	7.54e-12	7.841e-12	8.159e-12	8.324e-12
8	4	1.614e-11	1.449e-11	1.4e-11	1.388e-11
8	5	9.92e-12	1.011e-11	1.027e-11	1.029e-11
8	6	4.762e-12	5.756e-12	6.291e-12	6.593e-12
8	7	8.483e-12	9.172e-12	9.5e-12	9.776e-12
9	1	3.956e-12	3.846e-12	3.935e-12	3.955e-12
9	2	1.534e-11	1.415e-11	1.46e-11	1.537e-11
9	3	4.222e-12	3.74e-12	3.731e-12	3.798e-12
9	4	6.05e-12	5.493e-12	5.381e-12	5.346e-12
9	5	1.79e-11	1.727e-11	1.715e-11	1.724e-11
9	6	2.746e-12	3.175e-12	3.526e-12	3.756e-12
9	7	9.252e-12	1.015e-11	1.049e-11	1.061e-11
9	8	2.024e-12	2.84e-12	3.246e-12	3.466e-12
10	1	1.417e-12	1.121e-12	1.052e-12	1.024e-12
10	2	1.466e-11	1.13e-11	1.041e-11	1.008e-11
10	3	3.25e-12	2.951e-12	2.934e-12	2.92e-12
10	4	2.139e-12	2.311e-12	2.457e-12	2.51e-12
10	5	2.012e-11	2.018e-11	2.134e-11	2.264e-11
10	6	7.822e-12	7.294e-12	7.128e-12	7.024e-12
10	7	3.14e-12	3.551e-12	3.793e-12	3.904e-12

voparis-molecular.obspm.fr

Automatic Access to CDMS data

(N. Moreau & ML Dubernet)

Request into CDMS database

Wavelength interval (meters)		(format : min value1/max value1,min value2/max value2, ...)
Frequency interval (Mhz)		(format : min value1/max value1,min value2/max value2, ...)
Element name		(format : element1,element2,...)
Element stoechiometry		(format : element1,element2,...)
Element symmetry	All symmetries	
Output format	HTML	

Submit

parameters description

Service sur les données de CDMS

- **Récupération des données**
- **Traitement scientifique des données**
- **Inclusion dans base MySql**
- **Couche VO sur la base: Service**

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Fitting Spectra
Cologne Spectroscopy Data
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See the General part for a description of the content and the home page for citation!

Entries having an asterisk after the version number have been included in the database after acceptance of our new article on the CDMS, *J. Mol. Struct.*, **742** 215–227 (2005), in January, 2005. It can not be ruled out completely that recent entries contain errors.

Note: Entries having an asterisk after the tag state the temperature independent Sμ2 instead of the intensity *I* at 300 K !!

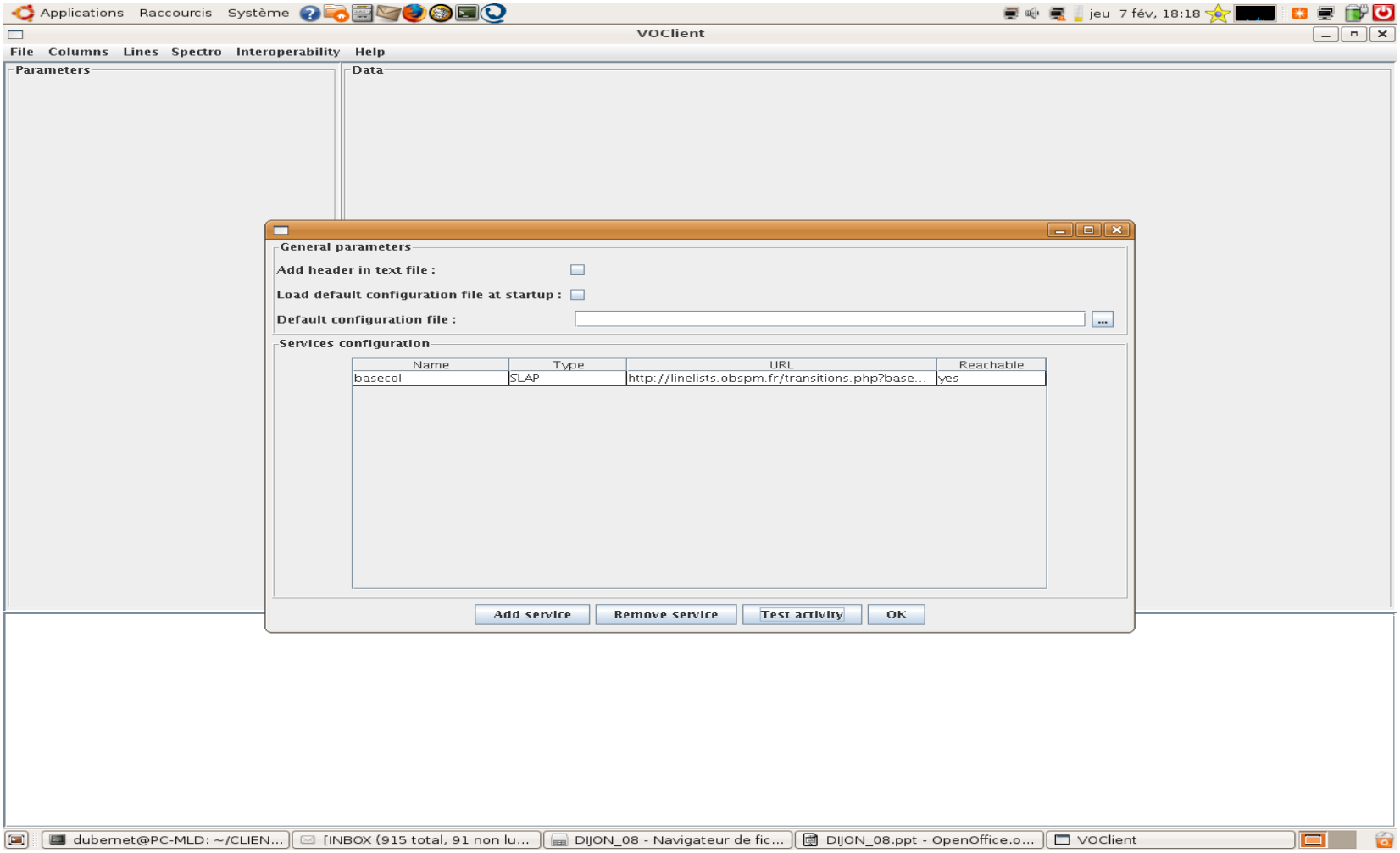
For some entries, where, for example, hyperfine splitting was important for the laboratory data, but is expected to be of minor importance for radioastronomical observations, separate predictions are available. Values of the partition function given in the respective documentation refer to the vibrational ground state only – unless stated otherwise.

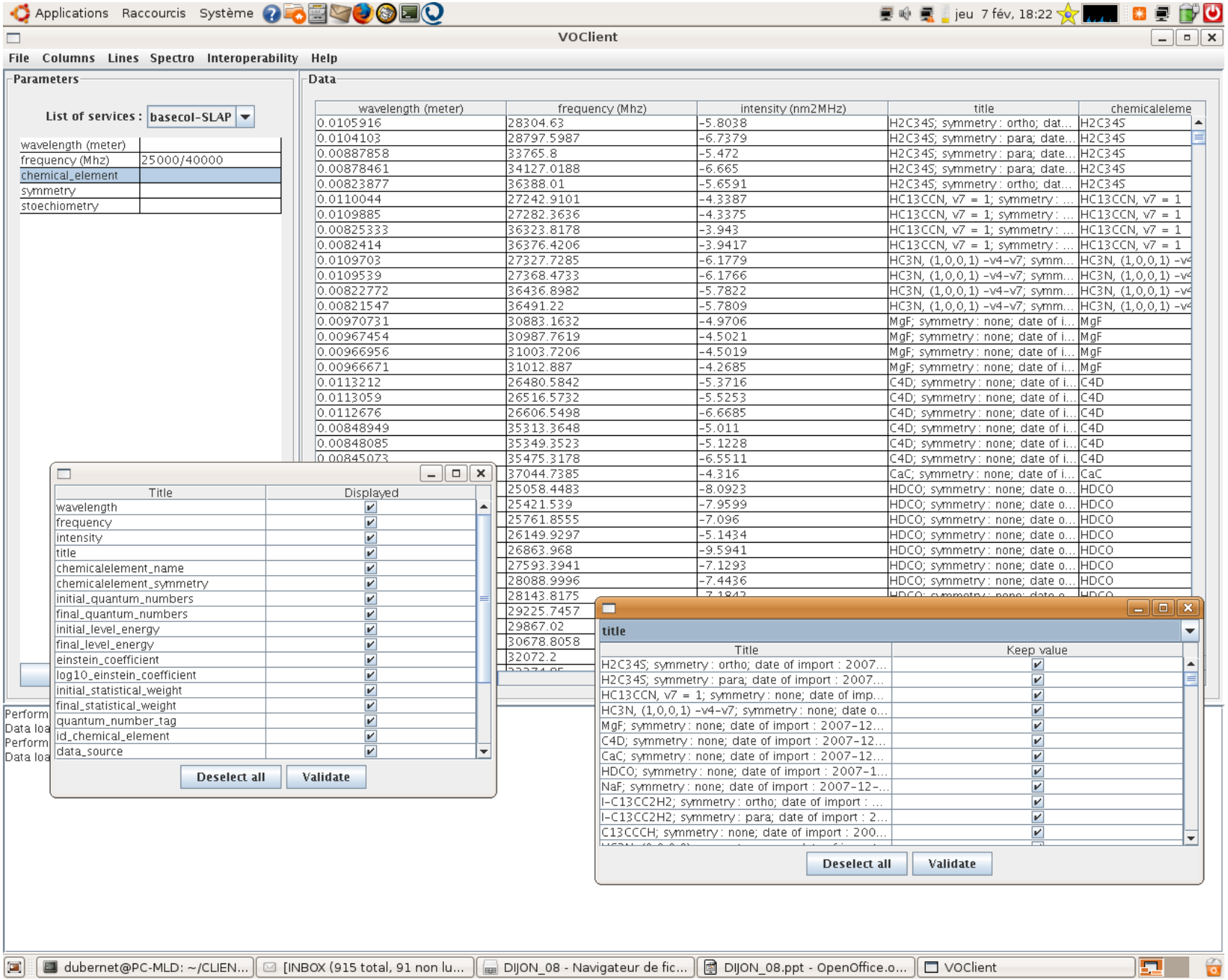
Get one list of partition functions for the price of a half.
Currently 387 entries.

Tag	Name	# lines	Ver.	Catalog	Documentation	Date of entry	Entry in cm−1
003501	HD, *v* = 0, 1	21	1*	HTML | ASCII	e003501.cat	Sep. 2005	w003501.cat
004501	H_2D^+	137	1*	HTML | ASCII	e004501.cat	Aug. 2005	w004501.cat
005501	HD_2^+	163	1*	HTML | ASCII	e005501.cat	Aug. 2005	w005501.cat
012501	C	2	1*	HTML | ASCII	e012501.cat	Sep. 2005	w012501.cat
013501	^{13}C	7	1*	HTML | ASCII	e013501.cat	Sep. 2005	w013501.cat
013502	CH	385	2*	HTML | ASCII	e013502.cat	Sep. 2006	w013502.cat
014501	CH_2	1400	1*	HTML | ASCII	e014501.cat	Sep. 2005	w014501.cat
015501	NH	1948	1	HTML | ASCII	e015501.cat	May 2004	w015501.cat
016501	NH_2	18513	2	HTML | ASCII	e016501.cat	Oct. 2001	w016501.cat
016502	ND	2020	1	HTML | ASCII	e016502.cat	Feb. 2004	w016502.cat
016503	CH_2D^+	222	1	HTML | ASCII	e016503.cat	July 2004	w016503.cat
017501	OH^+	209	1	HTML | ASCII	e017501.cat	Apr. 2003	w017501.cat
018501	NH_2D	3343	1	HTML | ASCII	e018501.cat	May 2004	w018501.cat
019501	NHD_2	4442	1	HTML | ASCII	e019501.cat	Aug. 2004	w019501.cat
020501	ND_3	698	1	HTML | ASCII	e020501.cat	June 2002	w020501.cat
024501	NaH	172	1	HTML | ASCII	e024501.cat	Jan. 2001	w024501.cat
025501	CCH, *v* = 0	109	1	HTML | ASCII	e025501.cat	Apr. 2004	
025502	MgH	96	1	HTML | ASCII	e025502.cat	May 2001	w025502.cat
025503	CCH, *v*2 = 1	374	1	HTML | ASCII	e025503.cat	Apr. 2004	
026501	CCD	198	1	HTML | ASCII	e026501.cat	Apr. 2000	
026502	^{13}CCH	232	1	HTML | ASCII	e026502.cat	May 2000	
026503	$C^{13}CH$	223	1	HTML | ASCII	e026503.cat	May 2000	
026504	CN, *v* = 0, 1	646	1*	HTML | ASCII	e026504.cat	May. 2005	

Automatic Access to CDMS data

VOClient to access services (N. Moreau & M.L. Dubernet)




Applications Raccourcis Système
jeu 7 fév, 18:22
VOClient
File Columns Lines Spectro Interoperability Help
Parameters
List of services : basecol-SLAP
wavelength (meter)
frequency (Mhz) 25000/40000
chemical_element
symmetry
stoechiometry
Data
wavelength (meter) | frequency (Mhz) | intensity (nm2MHz) | title | chemicaleleme
0.0105916 | 28304.63 | -5.8038 | H2C34S; symmetry : ortho; dat... | H2C34S
0.0104103 | 28797.5987 | -6.7379 | H2C34S; symmetry : para; date... | H2C34S
0.00887858 | 33765.8 | -5.472 | H2C34S; symmetry : para; date... | H2C34S
0.00878461 | 34127.0188 | -6.665 | H2C34S; symmetry : para; date... | H2C34S
0.00823877 | 36388.01 | -5.6591 | H2C34S; symmetry : ortho; dat... | H2C34S
0.0110044 | 27242.9101 | -4.3387 | HC13CCN, v7 = 1; symmetry : ... | HC13CCN, v7 = 1
0.0109885 | 27282.3636 | -4.3375 | HC13CCN, v7 = 1; symmetry : ... | HC13CCN, v7 = 1
0.00825333 | 36323.8178 | -3.943 | HC13CCN, v7 = 1; symmetry : ... | HC13CCN, v7 = 1
0.0082414 | 36376.4206 | -3.9417 | HC13CCN, v7 = 1; symmetry : ... | HC13CCN, v7 = 1
0.0109703 | 27327.7285 | -6.1779 | HC3N, (1,0,0,1) -v4-v7; symm... | HC3N, (1,0,0,1) -v4
0.0109539 | 27368.4733 | -6.1766 | HC3N, (1,0,0,1) -v4-v7; symm... | HC3N, (1,0,0,1) -v4
0.00822772 | 36436.8982 | -5.7822 | HC3N, (1,0,0,1) -v4-v7; symm... | HC3N, (1,0,0,1) -v4
0.00821547 | 36491.22 | -5.7809 | HC3N, (1,0,0,1) -v4-v7; symm... | HC3N, (1,0,0,1) -v4
0.00970731 | 30883.1632 | -4.9706 | MgF; symmetry : none; date of i... | MgF
0.00967454 | 30987.7619 | -4.5021 | MgF; symmetry : none; date of i... | MgF
0.00966956 | 31003.7206 | -4.5019 | MgF; symmetry : none; date of i... | MgF
0.00966671 | 31012.887 | -4.2685 | MgF; symmetry : none; date of i... | MgF
0.0113212 | 26480.5842 | -5.3716 | C4D; symmetry : none; date of i... | C4D
0.0113059 | 26516.5732 | -5.5253 | C4D; symmetry : none; date of i... | C4D
0.0112676 | 26606.5498 | -6.6685 | C4D; symmetry : none; date of i... | C4D
0.00848949 | 35313.3648 | -5.011 | C4D; symmetry : none; date of i... | C4D
0.00848085 | 35349.3523 | -5.1228 | C4D; symmetry : none; date of i... | C4D
0.00845073 | 35475.3178 | -6.5511 | C4D; symmetry : none; date of i... | C4D
37044.7385 | -4.316 | CaC; symmetry : none; date of i... | CaC
25058.4483 | -8.0923 | HDCO; symmetry : none; date o... | HDCO
25421.539 | -7.9599 | HDCO; symmetry : none; date o... | HDCO
25761.8555 | -7.096 | HDCO; symmetry : none; date o... | HDCO
26149.9297 | -5.1434 | HDCO; symmetry : none; date o... | HDCO
26863.968 | -9.5941 | HDCO; symmetry : none; date o... | HDCO
27593.3941 | -7.1293 | HDCO; symmetry : none; date o... | HDCO
28088.9996 | -7.4436 | HDCO; symmetry : none; date o... | HDCO
28143.8175
29225.7457
29867.02
30678.8058
32072.2
Title | Displayed
wavelength
frequency
intensity
title
chemicalelement_name
chemicalelement_symmetry
initial_quantum_numbers
final_quantum_numbers
initial_level_energy
final_level_energy
einstein_coefficient
log10_einstein_coefficient
initial_statistical_weight
final_statistical_weight
quantum_number_tag
id_chemical_element
data_source
Deselect all
Validate
title
Title | Keep value
H2C34S; symmetry : ortho; date of import : 2007...
H2C34S; symmetry : para; date of import : 2007...
HC13CCN, v7 = 1; symmetry : none; date of imp...
HC3N, (1,0,0,1) -v4-v7; symmetry : none; date o...
MgF; symmetry : none; date of import : 2007-12...
C4D; symmetry : none; date of import : 2007-12...
CaC; symmetry : none; date of import : 2007-12...
HDCO; symmetry : none; date of import : 2007-1...
NaF; symmetry : none; date of import : 2007-12-...
l-C13CC2H2; symmetry : ortho; date of import : ...
l-C13CC2H2; symmetry : para; date of import : 2...
C13CCH; symmetry : none; date of import : 200...
Deselect all
Validate
Perform
Data loa
Perform
Data loa
dubernet@PC-MLD: ~/CLIEN...
[INBOX (915 total, 91 non lu...
DIJON_08 - Navigateur de fic...
DIJON_08.ppt - OpenOffice.o...
VOClient

- Query Parameters
  - Frequency_min (instead of wavelength_min)
  - Frequency_max (instead of wavelength_max)
  - *Chemical_element (SLAP non compulsory parameter)*
  - *Chemical_element_symmetry (specific to this service)*
- Return list of transitions with:
  - chemicalelement_name, chemicalelement_symmetry
  - final_level_energy, einstein_coefficient, g_up
  - quantum_number_tag,id_chemical_element,
  - data_source, creation_date
  - Link to quantum numbers (URL)
  - Link to partition function values


```
- <VOTABLE version="1.1" xsi:schemaLocation="http://www.ivoa.net/xml/VOTable/v1.1 http://www.ivoa.net/xml/VOTable/v1.1">
  - <RESOURCE type="results">
      <INFO name="QUERY_STATUS" value="OK"/>
    - <TABLE>
        <FIELD name="frequency" ucd="em.freq" utype="ldm:Line.frequency" datatype="int"/>
        <FIELD name="chemicalelement_name" ucd="phys.atmol.element" utype="ldm:Line.initialElement.name" datatype="char" arraysize="*"/>
        <FIELD name="chemicalelement_symmetry" ucd="phys.atmol.element" datatype="char" arraysize="*"/>
        <FIELD name="final_level_energy" ucd="phys.energy;phys.atmol.final;phys.atmol.level" utype="ldm:Level.energy" datatype="double"/>
        <FIELD name="einstein_coefficient" ucd="phys.atmol.transProb" utype="ldm:Line.einsteinA" datatype="double"/>
        <FIELD name="statistical_weight" ucd="" datatype="double"/>
        <FIELD name="quantum_number_tag" ucd="meta.id" datatype="int"/>
        <FIELD name="id_chemical_element" ucd="meta.id" datatype="int"/>
        <FIELD name="data_source" ucd="meta.table" datatype="char" arraysize="*"/>
        <FIELD name="creation_date" ucd="" datatype="char" arraysize="*"/>
        <FIELD name="quantum_numbers_link" ucd="meta.ref.url" datatype="char" arraysize="*"/>
        <FIELD name="partition_function_link" ucd="meta.ref.url" datatype="char" arraysize="*"/>
      - <DATA>
        + <TABLEDATA></TABLEDATA>
        </DATA>
      </TABLE>
    </RESOURCE>
  </VOTABLE>
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IAO participation to VAMDC

- Part I: Deployment of Databases
  - V. Perevalov's Group
  - CO2, O3, HITRAN ?
- Part II: Joint Research Activities
  - A. Fazliev's group
  - Publishing Tools & Knowledge

Part I: Deployment of resources

- Provide Web Services on databases with output in format agreed in VAMDC
  - XML schema

- Step 1: Look at Schema / Database content
  - Improve schema
- Step 2: Provide output in schema with web service