



Spectral TOols Platform, Pybolt Niveau technique

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Réunion OVGSO : Autour de la simulation 03/03/2021



Sommaire

- Spectral TOols Platform (STOP)
- PyBolt

Spectral Tool Platform

- Développé il y a 5 ans par Ivan Zolotukhin
- Accessible par
 - Interface web en python Django
 - le protocole IVOA Universal Worker Service(UWS) avec outil Dachs (Software (0.9.6) Schema (12/12))
 - Gestion du lancement et exécution de jobs asynchrone
- Sous gitlab IRAP
 - <https://gitlab.irap.omp.eu/OV-GSO-DC/STOP.git>
- Sous redmine IRAP
 - https://projects.irap.omp.eu/projects/cassis-project/wiki/STOP_in_CASSIS
- Développement d'un prototype client Java UWS, il y a 3 ans par Bastien Kovac
 - Aussi sous gitlab et redmine
- Evolution technique : utiliser les dernières versions de DACHS, UWS et DJANGO (voir remplacement par Flask)

Connexion

STOP Home LVG · LIME About Contact

Please login

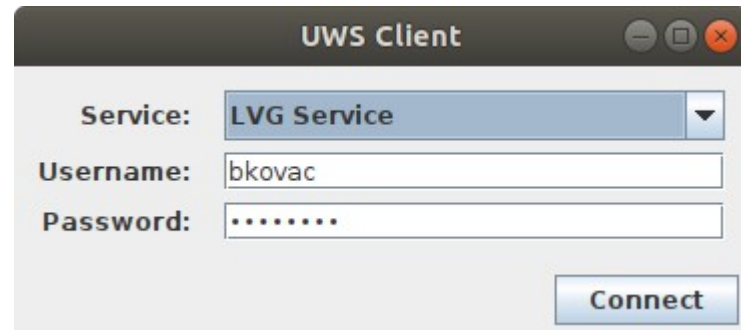
Username

Password

Login

Reset form

New user? [Register](#)



UWS Client

Service: **LVG Service**

Username: **bkovac**

Password: **.....**

Connect

Formulaire pour lancer les simulation

LVG: simulation

Grid Load config

Molecule and geometry

Molecule and isotopologues

CO species
CO
¹³CO
C¹⁷O
C¹⁸O
C¹³O

Hold Ctrl or ⌘ and then click to select several options

Collision partners

Use o/p ratio

Structure type

slab
expisphere
unisphère

Hold Ctrl or ⌘ and then click to select several options

Column density

min max n Log
1e+14 1e+16 5
in cm⁻² in cm⁻²

Collision partner density

min max n Log
1e+5 1e+7 5
in cm⁻³ in cm⁻³

Temperature

min max n Log
10 300 10
in K in K

Maximum energy level

Eup_max
1000
in K

Linewidth (slab)

min max n Log
3.5 5 1
in km/s in km/s

Launch simulation Reset form

UWS Client

LVG Service

Form Jobs list

Molecule and Geometry

Molecule and isotopologues	Collision partners	Structure type
CO Species CO ¹³ CO C ¹⁷ O C ¹⁸ O	o-H ₂	Slab. Expanding sphere Uniform sphere
SiO Species SiO ²⁹ SiO		
CH ₃ OH Species CH ₃ OH		

Column density - CO

Min. value (in cm ⁻²)	Max. value (in cm ⁻²)	Number of steps	Log
1E14	1E16	5	<input checked="" type="checkbox"/>

Column partner density

Min. value (in cm ⁻³)	Max. value (in cm ⁻³)	Number of steps	Log
1E5	1E7	5	<input checked="" type="checkbox"/>

Temperature

Min. value (in K)	Max. value (in K)	Number of steps	Log
10.0	300.0	10	<input checked="" type="checkbox"/>

Maximum energy level

Max. Eup (in K)
1000.0

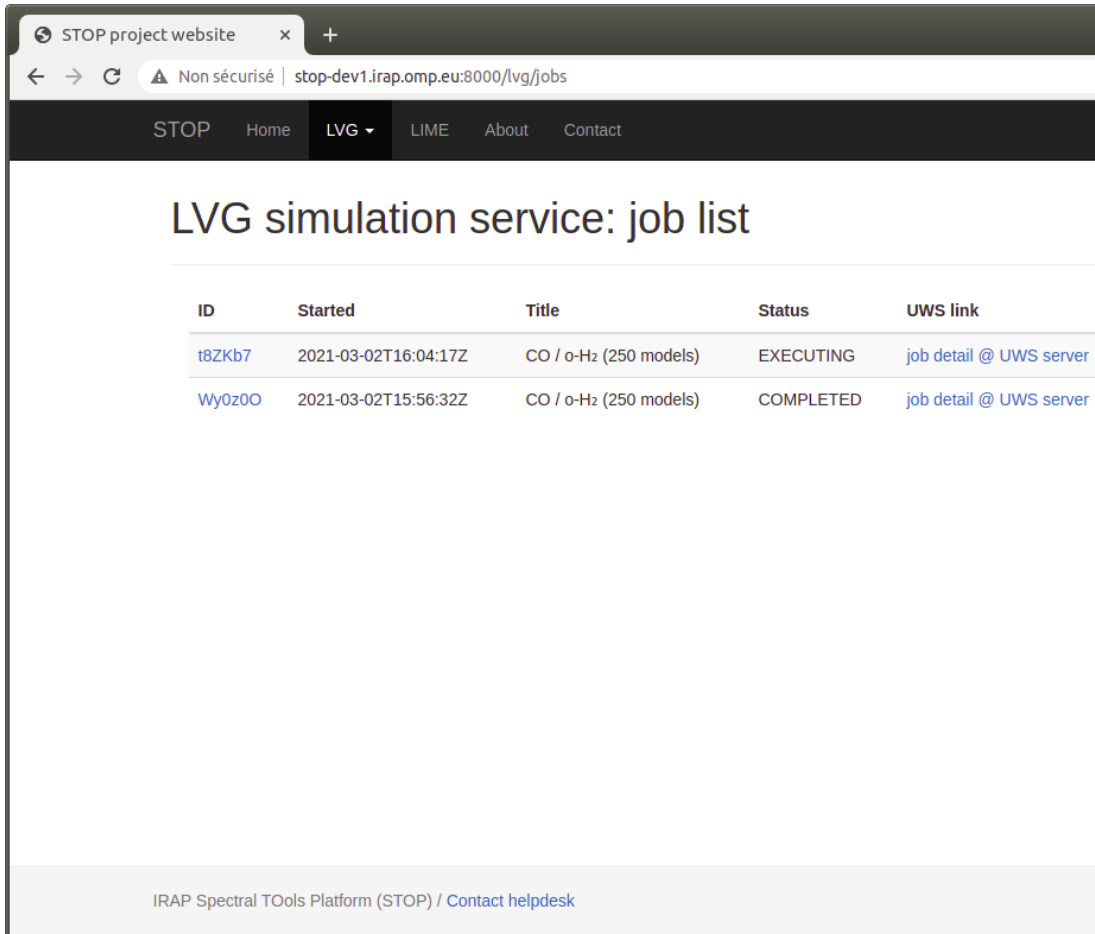
Linewidth (Slab.)

Min. value (in km/s)	Max. value (in km/s)	Number of steps	Log
3.5	5.0	1	<input type="checkbox"/>

Start job Reset form Save Load

Disconnect

Liste des jobs



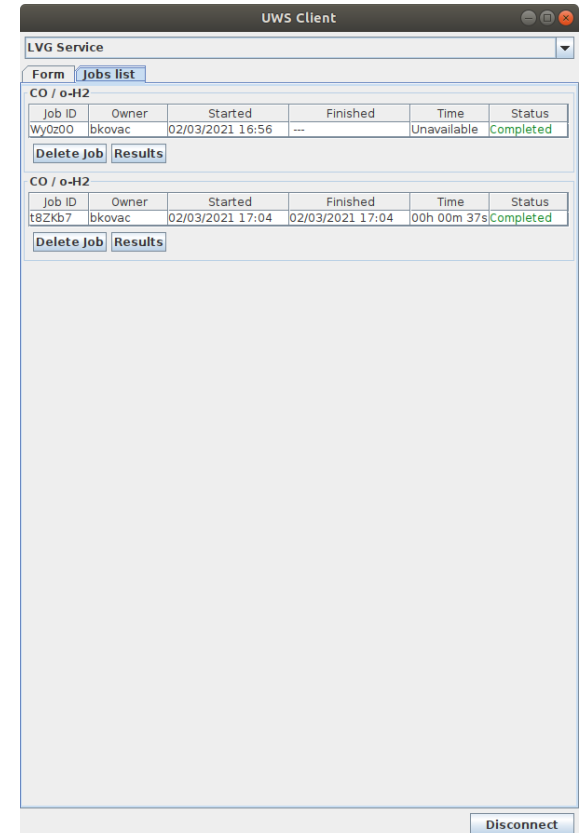
STOP project website | Non sécurisé | stop-dev1.irap.omp.eu:8000/lvg/jobs

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LVG simulation service: job list

ID	Started	Title	Status	UWS link
t8ZKb7	2021-03-02T16:04:17Z	CO / o-H ₂ (250 models)	EXECUTING	job detail @ UWS server
Wy0z00	2021-03-02T15:56:32Z	CO / o-H ₂ (250 models)	COMPLETED	job detail @ UWS server

IRAP Spectral TOols Platform (STOP) / [Contact helpdesk](#)



UWS client

LVG Service

Form Jobs list

Job ID	Owner	Started	Finished	Time	Status
Wy0z00	bkovac	02/03/2021 16:56	---	Unavailable	Completed

Delete Job Results

Job ID	Owner	Started	Finished	Time	Status
t8ZKb7	bkovac	02/03/2021 17:04	02/03/2021 17:04	00h 00m 37s	Completed

Delete Job Results

Disconnect

PyBolt

- Application python 3.6+
- Interface graphique en PyQt
- Plot spectres avec Matplotlib
- Autres bibliothèques :
 - pandas, astropy, emcee (MCMC), Numpy, Scipy, corner (autres plots) , PyAstronomy, tqdm (barre de progression), h5py
- Sous gitlab IRAP
 - <https://gitlab.irap.omp.eu/CASSIS/pybolt.git>
- Dans redmine IRAP
 - <https://projects.irap.omp.eu/projects/cassis-project/wiki/PyBolt>
- Evolution technique : tester interface graphique Tkinter
 - Stage DUT de 10 semaines en Avril 2021
 - Packaging plus facile car python natif