



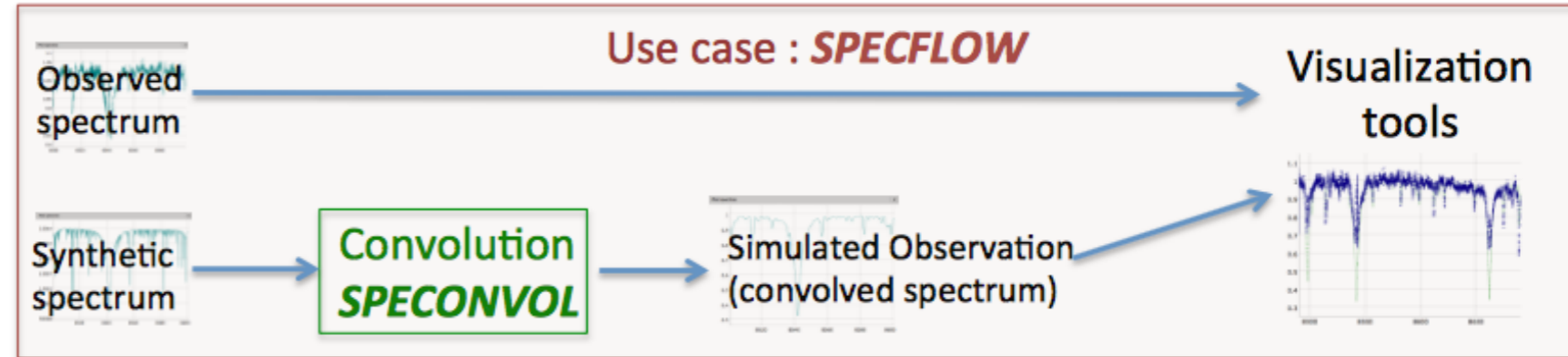
Theory - Bilan 2014

Franck Le Petit

SimDAL

Activités en 2014

InterOp de l'ESAC



Présentations sur:

- SPECCONVOL & SPECFLOW - M. Sanguillon (OV-GSO / LUPM)
- Astrochimie - F. Le Petit (LERMA / VO-Paris)
- Asterosismology - C.-R. Para (SVO)
- Galaxies - D. Fabjan (Trieste)

Finalisation des grandes lignes de SimDAL

3 parties :

- ① Simulations description registry
- ② Simulation search
- ③ Simulations data access / cutout

http://wiki.ivoa.net/internal/IVOA/InterOpMay2014Theory/InterOpESAC14_Theory_SimDAL.pdf

Activités en 2014

Réunion du groupe Theory à Paris

2-3 décembre 2014

Participants:

D. Languignon, F. Le Petit, M.
Molinaro, C.-R. Para, H. Wozniak
B. Godard, B. Debray, M. Sanguillon

- Convergence sur les points techniques
- Définition d'un planning pour le document

Planning

- Actuellement : rédaction
- Working draft pour fin mai
- Soumis à l'IVOA à l'InterOp de Sesto



Simulation Data Access Layer Version 1.0

IVOA Working Draft December, 24th, 2014

Working group
DAL

This version
<http://www.ivoa.net/documents/simdal/December, 24th, 2014>

Latest version
<http://www.ivoa.net/documents/simdal>

Previous versions
This is the first public release

Author(s)
David Languignon, Franck Le Petit, Gerard Lemson, Marco Molinaro, Carlos Rodrigo, Hervé Wozniak

Editor(s)
David Languignon, Franck Le Petit

Abstract

Status of This Document

This is an IVOA Working Draft for review by IVOA members and other interested parties. It is a draft document and may be updated, replaced, or obsoleted by other documents at any time. It is inappropriate to use IVOA Working Drafts as reference materials or to cite them as other than “work in progress”.

A list of current IVOA Recommendations and other technical documents can be found at <http://www.ivoa.net/Documents/>.

Contents

Développement de services avec SimDAL

Besoin de plusieurs implémentations pour tester & valider la proposition de standard

Base de données de la plateforme MIS & Jets

Base de données de modèles PDR

ISM Services CODES & DATABASES *access to services* TECHNOLOGIES *standards* PARTNERS *credits*

Plot axis

X: nH (input parameter) (cm⁻³) log scale

Y: ISRF scaling factor (obs side) (Mathis_unit) log scale

Fixed axis

AVmax (mag) 0.5

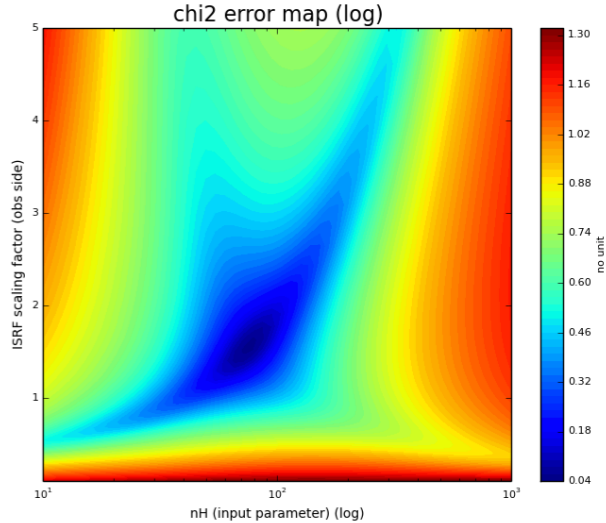
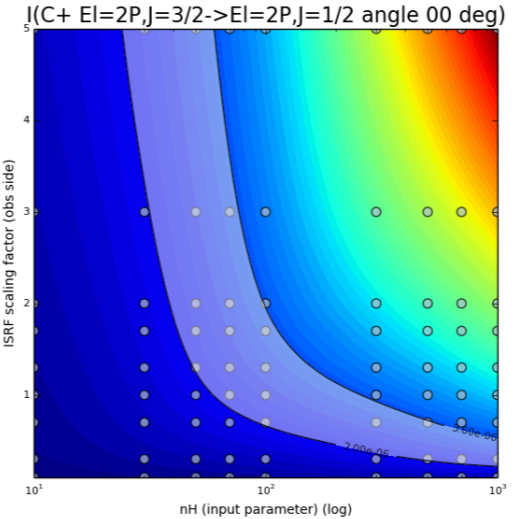
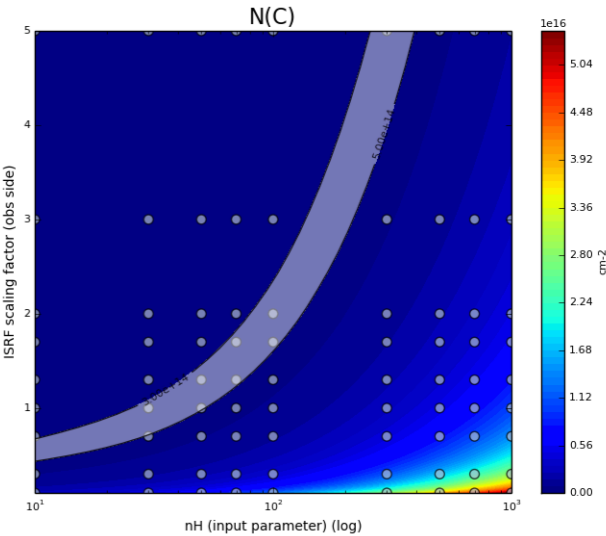
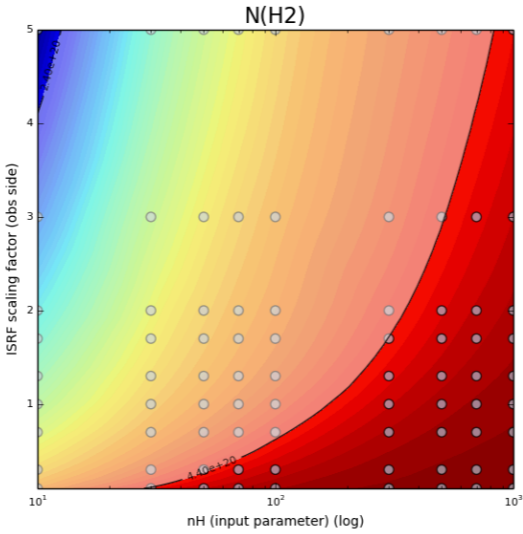
Axis constraints

ex: N(Fe+) > 6e12

Add N(Fe+)

- N(H2) > 2.4E20
- N(H2) < 4.4E20
- N(C) > 3.0E14
- N(C) < 5.0E14
- I(C+ EI=2P,J=3/2->EI=2P,J=1/2 angle 00 deg) > 2E-6

Plot



Développement de services avec SimDAL

Galaxies & Galaxies cluster

Equipe de cosmologie de Trieste

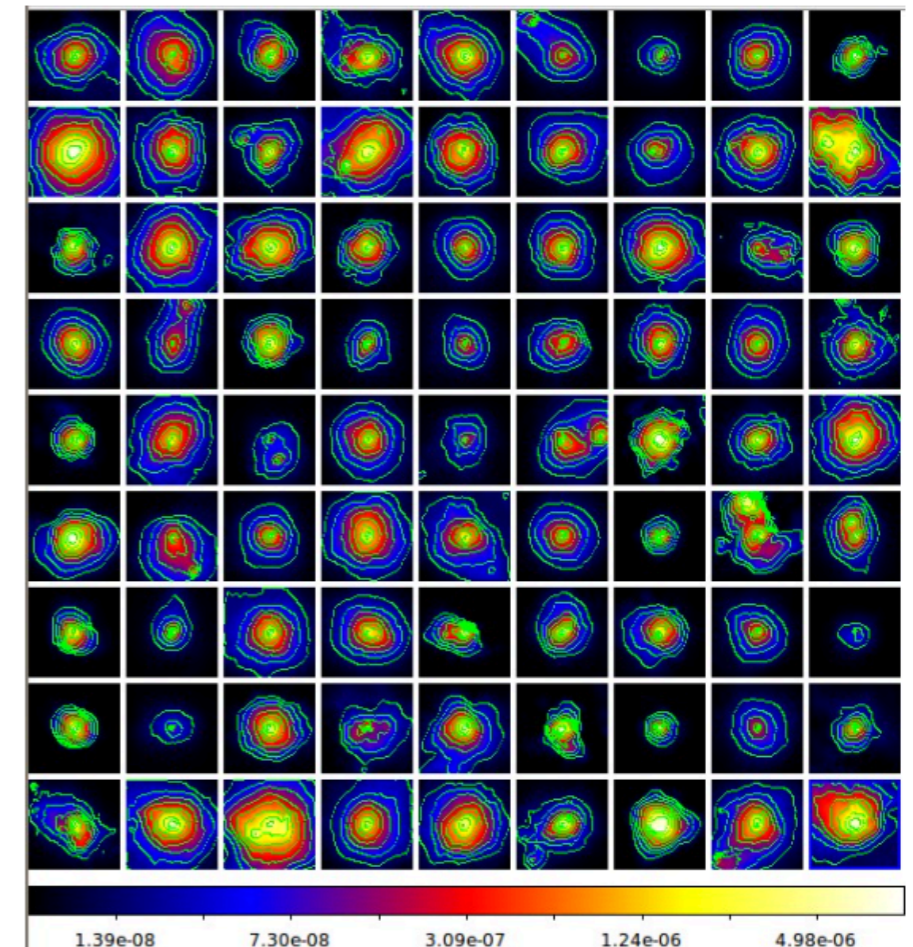
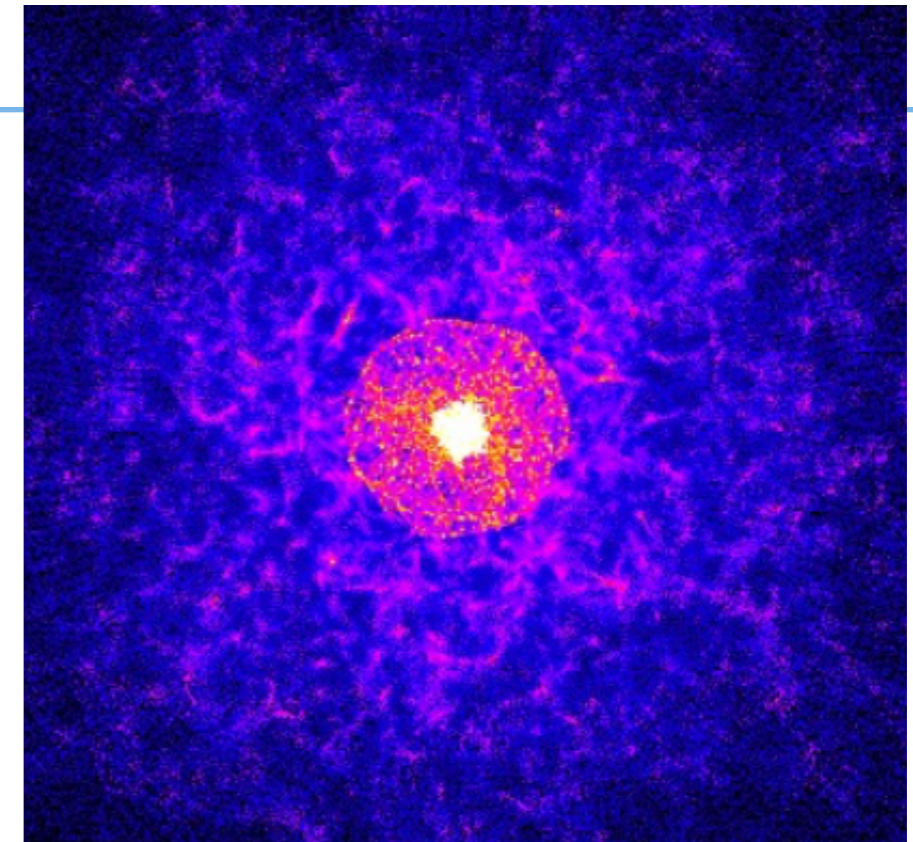
S. Borgani, G. De Lucia, D. Fabjan,

M. Molinaro, P. Monaco, G. Murante, R. Smareglia

- N-body integrator for (DM dominated) gravity + hydrodynamic scheme for collisional (gas) fluid elements.
- **Initial conditions** to reproduce the the CMB anisotropies.
- Integration performed in comoving coordinates.

Products: positions, velocities, densities
temperatures, SFR, metallicities, ...

Several tens of snapshots 1-100 GB each
100 GB => 1-10 TB per run



Développement de services avec SimDAL

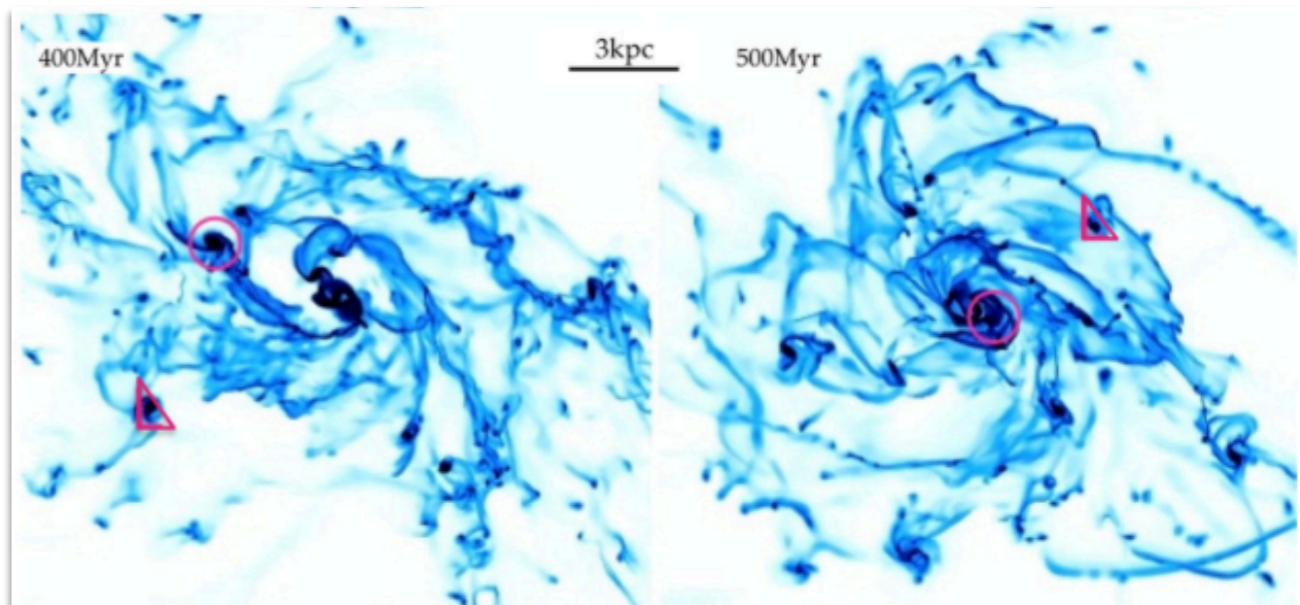
Diffusion de simulations au CEA

Recrutement de Damien Chapon - dec. 2014

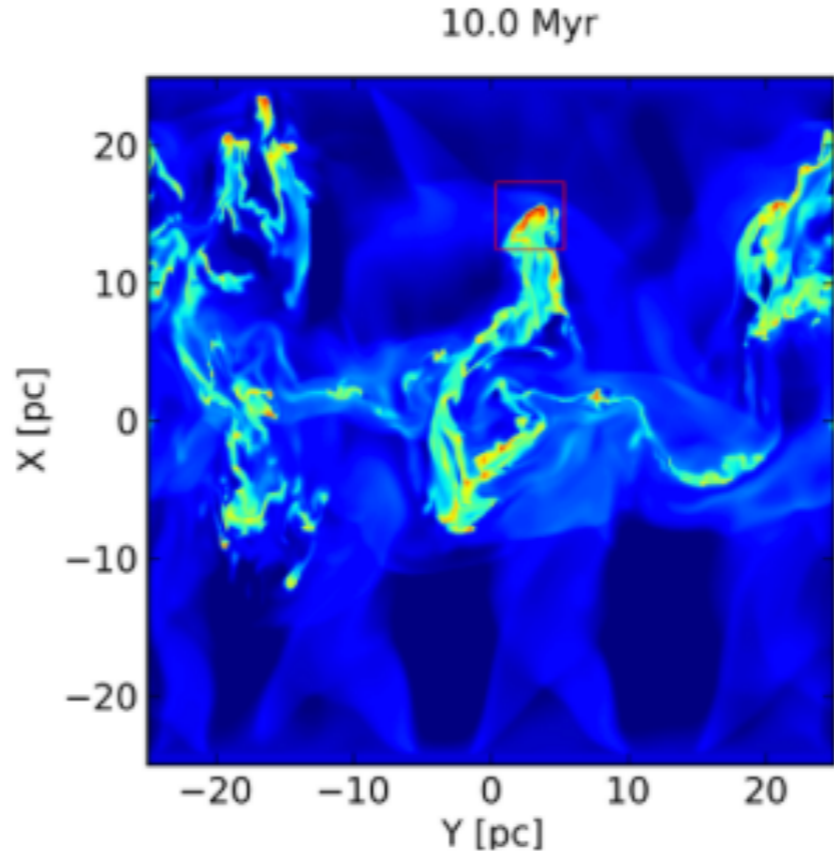
Objectif: bases de données de différents types de simulations lourdes

- Simulations de galaxies - F. Bournaud
- Simulations du gaz interstellaire - P. Hennebelle
- Physique stellaire - S. Brun
- ...

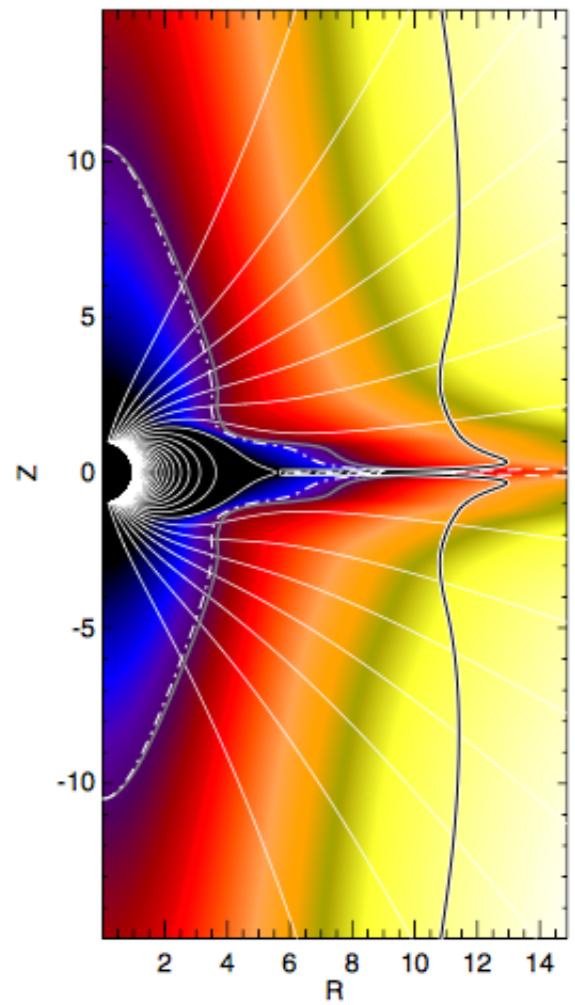
+ post-traitements à la volée envisagés



F. Bournaud



P. Hennebelle



S. Brun

Développement de services avec SimDAL

- POLLUX

- Modèle de la Galaxie de Besançon

- CASSIS

Model of stellar population synthesis of the Galaxy
Catalogue simulation without kinematics, Johnson-Cousins photometric system

To get help on parameters and values to supply, click on ?

Field of view :

- Distance interval (kpc) : [0.000000 , 50.000000]
 Distance step : [?] mode : [progressive]
- specify step value (in parsecs) if linear mode or $\Delta r/r$ if logarithmic mode: [0.000]
- field:
 - ▣ small field (defined by the center of the field and its surface) :
 Longitude : [200.00] Latitude : [59.00] Solid angle (deg²) : [1.000000]
 - ▢ large field (field defined by galactic longitude and latitude):
 Coordinate system: [galactic coordinates]
 If equatorial coordinates, specify equinox: [2000.0]

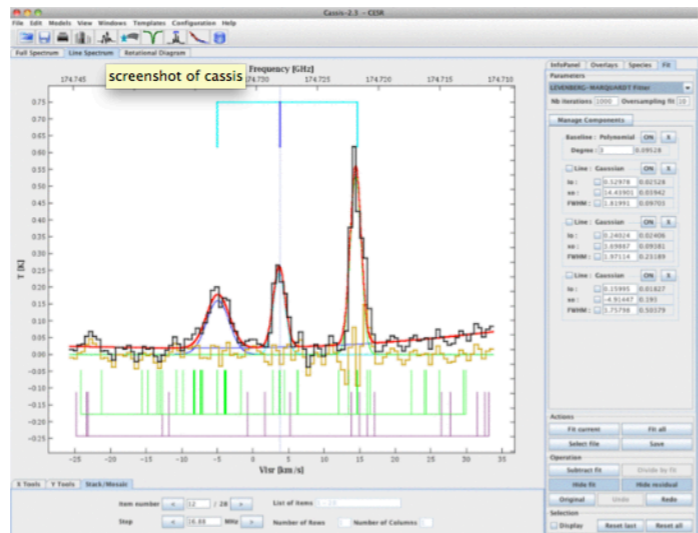
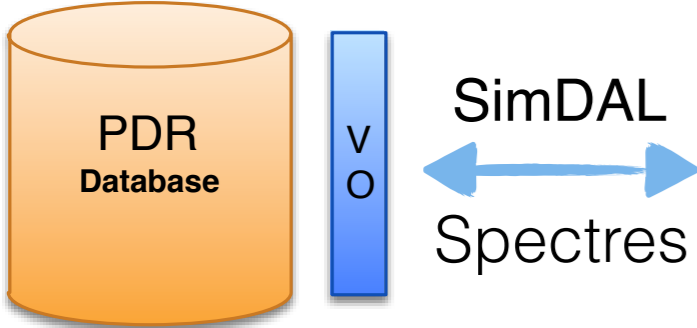
	minimum	maximum	step
Galactic longitude or right ascension (decimal degrees):	[200.00]	[200.00]	[1.00]
Galactic latitude or declination (decimal degrees):	[59.00]	[59.00]	[1.00]

Extinction law

?
Diffuse extinction:
 [0.700] mag/kpc
(A mean diffuse absorption of 0.7 mag/kpc is recommended for intermediate and high latitude fields. It may be modified.)

Discrete clouds:

cloud n°	absorption (A _v)	distance (pc)	cloud n°	absorption (A _v)	distance (pc)	cloud n°	absorption (A _v)	distance (pc)
1:			2:			3:		
4:			5:			6:		
7:			8:			9:		
10:			11:			12:		
13:			14:			15:		
16:			17:			18:		
19:			20:			21:		
22:			23:			24:		
25:								



Cassis - OV-GSO