

GhoSST interface

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A lot of work since last year!

Enhancement of some parts

- graphes
- searches
- detailed pages

New components

- export
- unit conversion
- statistics

Beta-test

- <http://ghosst-prod.obs.ujf-grenoble.fr>

Outline

- 1 Guest access
 - Home
 - Search
 - Details
- 2 Registered user access
- 3 Producer access
- 4 Misc

Home page

Home Search User

GhoSST

"Grenoble Astrophysics and Planetology Solid Spectroscopy and Thermodynamics" database service

OSUG
Observatoire des
Sciences de l'Univers
de Grenoble

IPAG
Institut de Planétologie
et d'Astrophysique
de Grenoble

INSU
Observer & comprendre

Europlanet
Research Infrastructure

VAMDC
Virtual Atomic and Molecular Data Centre

CNES
CENTRE NATIONAL D'ÉTUDES SPATIALES

The GhoSST service concerns the development of two main databases on the spectroscopic (electromagnetic waves) and physical properties of solids of planetary and astrophysical interests.

- An **experimental database on "spectroscopy of solids"** covering different types of solid samples (molecular solids/ices, minerals, organic and carbonaceous materials, meteorites, ...) and spectroscopic techniques from the VUV to the mm ranges (IR transmission, vis-IR reflectance, Raman, Fluorescence, IR microscopy, ...) and providing their full electromagnetic spectra, as well as a **"band list" database (absorption bands) of molecular solids**.
- A **database on the "physical properties molecular solids"** based on bibliographical reviews and critical analyses of published data (measurements, theoretical calculations, ...) completed by our own measurements and computations.

Guided search

The screenshot shows a web browser window with the URL "GhoSST / search / guided - Iceweasel". The page has a blue header with the GhoSST logo and navigation links for "Home", "Search", and "User". The main content area is titled "Search / Guided / By spectrum type". Below this, there is a search instruction "Search by spectrum type (change to species)" and two buttons: "Add next field" and "View results". To the right of the buttons, it says "147 spectra found". A dropdown menu for "Instrument type" is open, showing options: "All", "FTIR spectrometer", "Simulation", and "Spectro-gonio radiometer". At the bottom of the page, there are links for "Documentation", "Contact", and "Credits".

Guided search

GhoSST / search / guided - Iceweasel

Home Search User

GhoSST

Search / Guided / By spectrum type

Search by spectrum type (change to [species](#)) 4 spectra found

Instrument type: -- All --
FTIR spectrometer
Simulation
Spectro-gonio radiometer

Instrument technique: -- All --
Transmission

Spectrum type: -- All --
Absorbance
Optical constants
Transmission

Spectral range unit: cm-1

Spectral range type: -- All or Custom only --
FIR
MIR
NIR

Custom spectral range min:

Custom spectral range max:

[Documentation](#) • [Contact](#) • [Credits](#)

Guided search

GhoSST / search / guided - Iceweasel

Home Search User

GhoSST

Search / Guided / By spectrum type

Search by spectrum type (change to *species*) Add next field View results 4 spectra found

Instrument type: -- All --
 FTIR spectrometer
 Simulation
 Spectro-gonio radiometer

Instrument technique: -- All --
 Transmission

Spectrum type: -- All --
 Absorbance
 Optical constants
 Transmission

Spectral range unit: cm-1

Spectral range type: -- All or Custom only --
 FIR
 MIR
 NIR

Custom spectral range min:

Custom spectral range max:

Spectrum

		ID	Type	File title	Sample	Spectral range min.	Spectral range max.	Sample temperature (K)	Species

Advanced spectrum

		ID	Type	File title	Sample	Spectral range min.	Spectral range max.	Sample temperature (K)	Species
		2	optical constants	MIR Optical constants spectri	H2O crystalline - dep 145K -				
		3	optical constants	MIR Optical constants spectri	H2O crystalline - dep 145K -				
		5	optical constants	MIR Optical constants spectri	H2O crystalline - dep 145K -				
		6	optical constants	MIR Optical constants spectri	H2O crystalline - dep 145K -				

Guided search

The screenshot shows a web browser window with the URL 'GhoSST / search / guided - iceweasel'. The page has a blue header with the GhoSST logo and navigation links for 'Home', 'Search', and 'User'. The main content area is titled 'Search / Guided / By species' and includes a search bar with the text 'Search by species (change to spectrum type)'. To the right of the search bar are buttons for 'Add next field', 'View results', and a count of '147 spectra found'. Below the search bar are several filter categories, each with a dropdown menu and a list of options:

- Species type:** -- All --, **Molecules**, Molecule
- Species name:** [text input]
- Species formula:** [text input]
- Species relevance:** -- All --, **Molecules**, Precursor, Actual
- Matter family:** -- All --, Molecular, Snow, Mineral
- Spectral range unit:** cm-1
- Spectral range type:** -- All or Custom only --, FIR, MIR, NIR
- Custom spectral range min:** [text input]
- Custom spectral range max:** [text input]
- Instrument type:** -- All --, FTIR spectrometer, Simulation, Spectro-gonio radiometer
- Instrument technique:** -- All --, Bidirectional reflection, Doué+Schmitt 1998 model, Transmission
- Spectrum type:** -- All --, Absorbance, Bidirectional reflectance, Optical constants

Guided search

The screenshot shows a web browser window with the URL 'GhoSST / search / guided - Iceweasel'. The page has a blue header with the GhoSST logo and navigation links for 'Home', 'Search', and 'User'. The main content area is titled 'Search / Guided / By spectrum type' and includes a search bar with the text 'Search by spectrum type (change to species)'. To the right of the search bar are buttons for 'Add next field', 'View results', and a count of '147 spectra found'. Below the search bar are several filter categories, each with a dropdown menu:

- Instrument type:** -- All --, FTIR spectrometer, Simulation, Spectro-gonio radiometer
- Instrument technique:** -- All --, Bidirectional reflection, Douté+Schmitt 1998 model, Transmission
- Spectrum type:** -- All --, Absorbance, Bidirectional reflectance, Optical constants
- Spectral range unit:** cm-1
- Spectral range type:** -- All or Custom only --, FIR, MIR, NIR
- Custom spectral range min:** [text input]
- Custom spectral range max:** [text input]
- Matter family:** -- All --, Molecular, Snow, Mineral
- Species type:** -- All --, **Molecules**, Molecule
- Species name:** [text input]
- Species formula:** [text input]
- Species relevance:** -- All --, **Molecules**, Precursor, Actual

Advanced search

GhoSST / search / advanced - Icweweasel

Home Search User

GhoSST

Search / Advanced

View results | Reset | 147 spectra found

Material

Species type: -- All --
Molecules
 Molecule
 Molecular ion

Species formula:

Species name and code:

Species relevance: -- All --
Molecules
 Actual
 Precursor

Matter origin: -- All --
 Terrestrial
 Extraterrestrial
 Synthetic

Material name:

Matter family: -- All --
 Molecular
 Mineral
 Rock

Temperature min. (K):

Temperature max. (K):

Layers number:

Layer texture: -- All --
 Loose granular
 Cemented granular
 Sintered granular

Constituents mixing: -- All --
 Single phase
 Multi-phases
 Coated grain

Constituent family: -- All --
 Molecular solid
 Molecular liquid
 Molecular gas

Instrument

Type: -- All --
 FTIR spectrometer
 Grating spectrometer
 ADFE spectrometer

Technique: -- All --
 Transmission
 Reflection
 Biconical reflection

Advanced search

GhoSST / search / advanced - Icteweasel

Icteweasel GhoSST / search / advanced

Constituents mixing
All --
Single phase
Multi-phases
Coated grain

Constituent family
All --
Molecular solid
Molecular liquid
Molecular gas

Phase type
-- All --
Crystalline
Amorphous
Glassy

Species compound
All --
Pure
Mixed
Binary

Ad/absorption
All --
Adsorption
Insertion
No

Compound state
All --
Molecules
Pure
Mixed

Spectral range
Unit: cm-1
Type: All or Custom only --
FIR
MIR
NIR
Custom min.:
Custom max.:

Spectrum
Type: All --
Spectrum
Transmission
ATReflection

[Documentation](#) • [Contact](#) • [Credits](#)

Advanced search

GhoSST / search / advanced - Iceweasel

Iceweasel GhoSST / search / advanced

Spectrum

ID	Type	File title	Sample	Spectral range min.	Spectral range max.	Sample temperature (K)	Species
1	transmission	N87_R01 METHANE LIQUID 5K	CH4 Crystal 100µm	1850	10500	92	CH4, CO2, H2O
2	transmission	N87_R01 METHANE LIQUID 5K	CH4 Liquid 100µm	1850	10500	92	CH4, CO2, H2O
3	transmission	N87_R02 CH4 ICE 90 K	CH4 Crystal 100µm	1850	10500	90	CH4, CO2, H2O
4	transmission	N87_R03 CH4 ICE 80 K	CH4 Crystal 100µm	1850	10500	80	CH4, CO2, H2O
5	transmission	N87_R04 CH4 ICE 70 K	CH4 Crystal 100µm	1850	10500	70	CH4, CO2, H2O
6	transmission	N87_S05 CH4 ICE 60 K	CH4 Crystal 100µm	1850	10500	60	CH4, CO2, H2O
7	transmission	N87_S06 CH4 ICE 50 K	CH4 Crystal 100µm	1850	10500	50	CH4, CO2, H2O
8	transmission	N87_S07 CH4 ICE 40 K	CH4 Crystal 100µm	1850	10500	40	CH4, CO2, H2O
9	transmission	N87_S08 CH4 ICE 35 K	CH4 Crystal 100µm	1850	10500	35	CH4, CO2, H2O
10	transmission	N87_S09 CH4 ICE 30 K	CH4 Crystal 100µm	1850	10500	30	CH4, CO2, H2O
11	transmission	N87_S10 CH4 ICE 25 K	CH4 Crystal 100µm	1850	10500	25	CH4, CO2, H2O
12	transmission	1ERDEPOT-15K-M25_CH4.R	CH4 solid phase I - 15K - film	490	6500	15	CH4, CO2, H2O
13	transmission	2EMEDEPOT-15K-M25_CH4.R	CH4 solid phase I - 15K - film	490	6500	15	CH4, CO2, H2O
14	transmission	3EMEDEPOT-15K-M25_CH4.R	CH4 solid phase I - 15K - film	490	6500	15	CH4, CO2, H2O
16	transmission	4EMEDEPOT-15K-M25_CH4.R	CH4 solid phase I - 15K - film	490	6500	15	CH4, CO2, H2O
17	transmission	5EMEDEPOT-15K-M25_CH4.R	CH4 solid phase I - 15K - film	490	6500	15	CH4, CO2, H2O
18	transmission	6EMEDEPOT-15K-M25_CH4.R	CH4 solid phase I - 15K - film	490	6500	15	CH4, CO2, H2O
27	transmission		H2O crystalline - dep 145K -	400	6500	145	CO2, H2O
28	transmission		H2O crystalline - dep 145K -	400	6500	100	CO2, H2O
29	transmission		H2O crystalline - dep 145K -	400	6500	60	CO2, H2O

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Advanced spectrum

ID	Type	File title	Sample	Spectral range min.	Spectral range max.	Sample temperature (K)	Species
2	optical constants	MIR Optical constants spectri	H2O crystalline - dep 145K -				
3	optical constants	MIR Optical constants spectri	H2O crystalline - dep 145K -				
5	optical constants	MIR Optical constants spectri	H2O crystalline - dep 145K -				
6	optical constants	MIR Optical constants spectri	H2O crystalline - dep 145K -				
8	absorbance	MIR optical depth spectrum (s	simulated H2O snow - 10µm				
9	absorbance	MIR optical depth spectrum (s	simulated H2O snow - 10µm				
10	absorbance	MIR optical depth spectrum (s	simulated H2O snow - 10µm				
11	absorbance	MIR optical depth spectrum (s	simulated H2O snow - 10µm				

Advanced search

GhoSST / search / advanced - Iceweasel

Iceweasel GhoSST / search / advanced

Spectrum

ID	Type	File title	Sample	Spectral range min.	Spectral range max.	Sample temperature (K)	Species
30	transmission		H2O crystalline - dep 143K - 400	6500	17	CO2, H2O	
31	transmission		H2O crystalline - dep 143K - 40	660	143	CO2, H2O	
32	transmission		H2O crystalline - dep 143K - 40	660	80	CO2, H2O	
33	transmission					CO2, H2O	
34	transmission					CO2, H2O	
35	transmission					CO2, H2O	
36	bidirection					H2O	
37	bidirection					H2O	
38	bidirection					H2O	
39	bidirection					H2O	
40	bidirection					H2O	
41	bidirection					H2O	
42	bidirection					H2O	
43	bidirection					H2O	
44	bidirection					H2O	
45	bidirection					H2O	
46	bidirection					H2O	
47	bidirection					H2O	
48	bidirection					H2O	
49	bidirection					H2O	

Zoom 31

CLOSE

Advanced spectrum

ID	Type	File title	Sample	Spectral range min.	Spectral range max.	Sample temperature (K)	Species
2	optical constants	NIR Optical constants spectr	H2O crystalline - dep 143K -				
3	optical constants	NIR Optical constants spectr	H2O crystalline - dep 143K -				
5	optical constants	NIR Optical constants spectr	H2O crystalline - dep 143K -				
6	optical constants	NIR Optical constants spectr	H2O crystalline - dep 143K -				
8	absorbance	NIR optical depth spectrum (p	simulated H2O snow - 10Jen				

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Advanced search

GhoSST / search / advanced - Iceweasel

Iceweasel GhoSST / search / advanced

42	bidirectional reflectance	Wet crusted snow - Argentina	0.44	2.5	263	H2O
43	bidirectional reflectance	Wet crusted snow - Argentina	0.44	2.5	263	H2O
44	bidirectional reflectance	Wet crusted snow - Argentina	0.44	2.5	263	H2O
45	bidirectional reflectance	Wet crusted snow - Argentina	0.44	2.5	263	H2O
46	bidirectional reflectance	Wet crusted snow - Argentina	0.44	2.5	263	H2O
47	bidirectional reflectance	Wet crusted snow - Argentina	0.44	2.5	263	H2O
48	bidirectional reflectance	Wet crusted snow - Argentina	0.44	2.5	263	H2O
49	bidirectional reflectance	Wet crusted snow - Argentina	0.44	2.5	263	H2O

<< Page 2 / 6 >>

Advanced spectra

ID	Type	Species
2	optical con	
3	optical con	
5	optical con	
6	optical con	
8	absorbance	
9	absorbance	
10	absorbance	
11	absorbance	
12	absorbance	
13	absorbance	
14	absorbance	
15	absorbance	
16	absorbance	
17	absorbance	
18	absorbance	NIR optical depth spectrum (s. simulated H2O snow - 10µm)
19	absorbance	NIR optical depth spectrum (s. simulated H2O snow - 10µm)
20	absorbance	NIR optical depth spectrum (s. simulated H2O snow - 10µm)
21	absorbance	NIR optical depth spectrum (s. simulated H2O snow - 10µm)
22	absorbance	NIR optical depth spectrum (s. simulated H2O snow - 10µm)
23	absorbance	NIR optical depth spectrum (s. simulated H2O snow - 10µm)

<< Page 1 / 2 >>

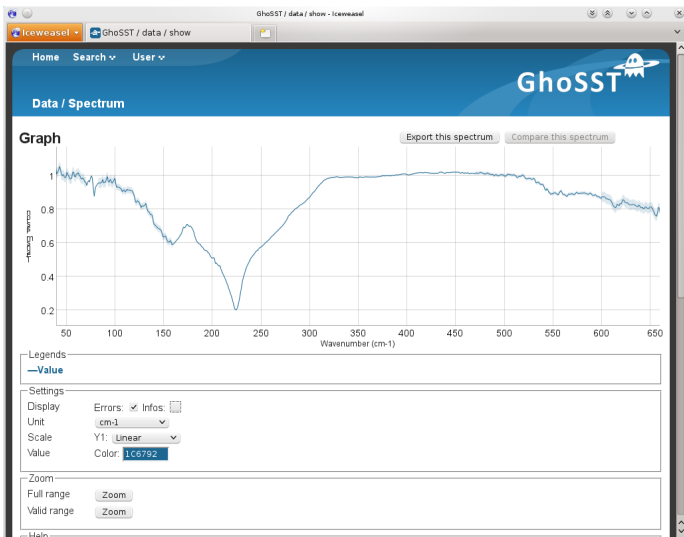
Documentation • Contact • Credits

MIR Optical constants spectrum of H2O 1h film at 60 K

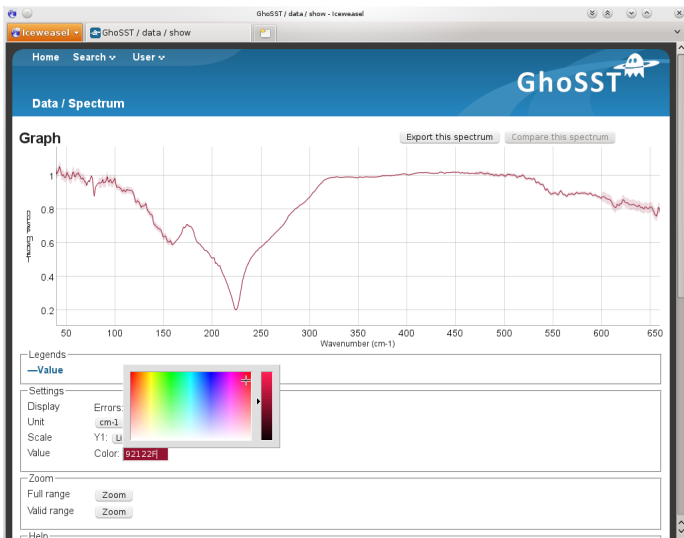
Zoom 6

CLOSE

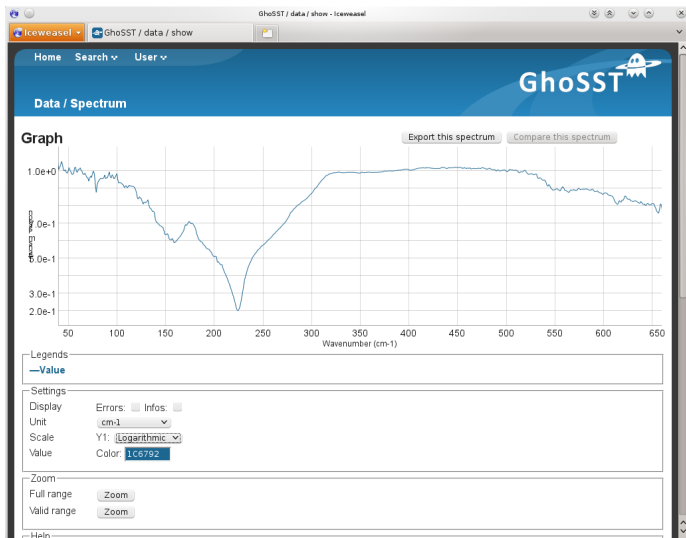
Spectrum



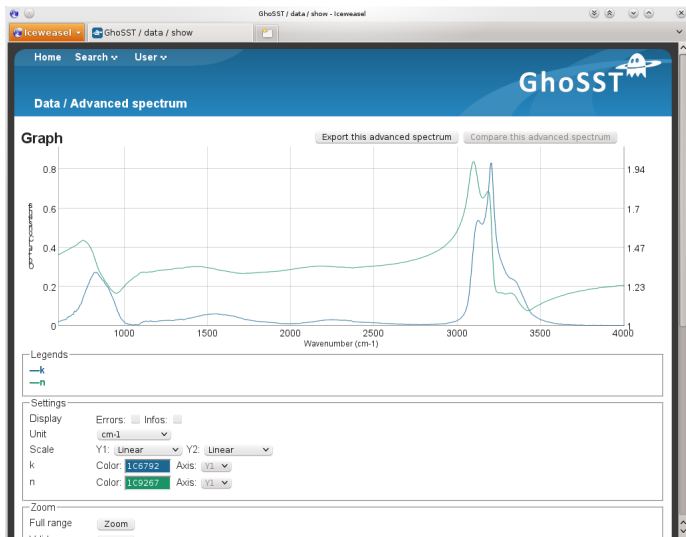
Spectrum



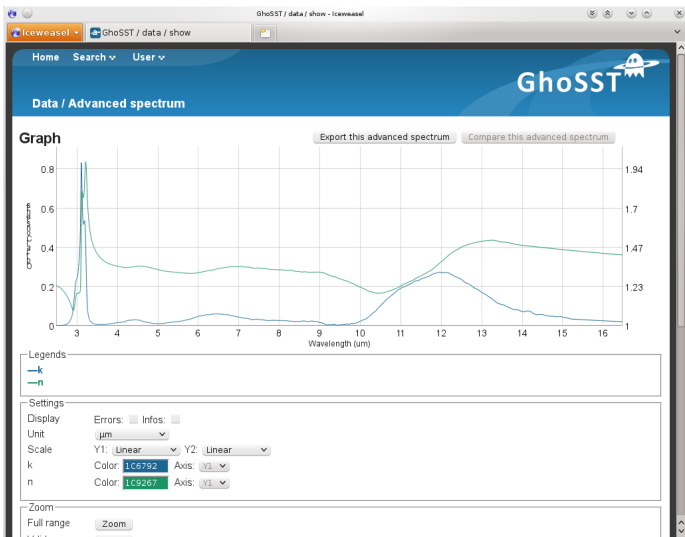
Spectrum



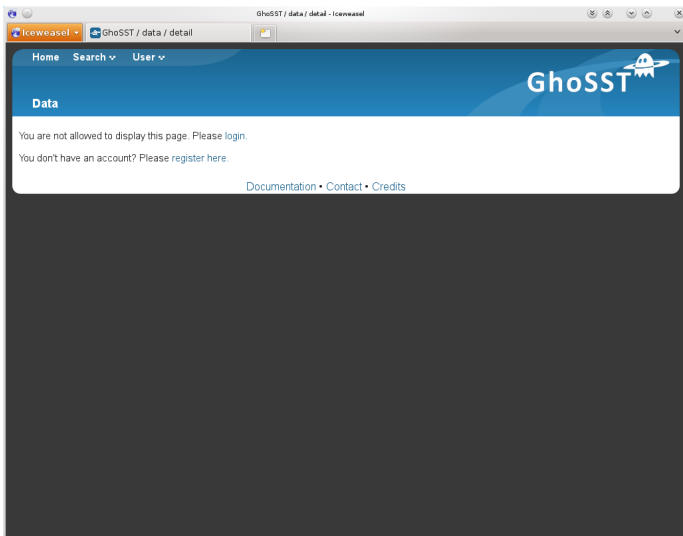
Advanced spectrum



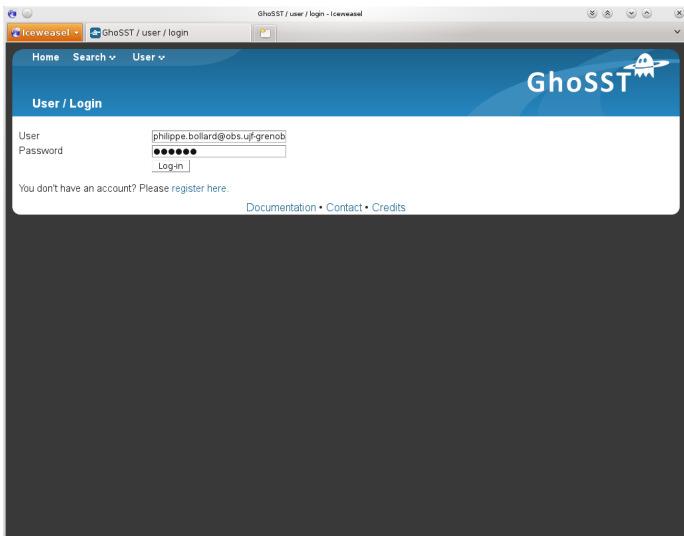
Advanced spectrum



Login



Login



Outline

- 1 Guest access
- 2 Registered user access
 - Details
 - Search
 - Export
 - User
- 3 Producer access
- 4 Misc

Advanced spectrum

GhoSST / data / detail - Iceweasel

Iceweasel GhoSST / data / detail

Home Search Data Producer Manager User

GhoSST

Data / Advanced spectrum

Advanced spectrum [Export this advanced spectrum](#)

ID 6

[View graph](#)

Spectrum type and links

Spectrum type optical constants

File title MIR Optical constants spectrum of H2O lh film at 60 K

File name kn-H2Ocr-M.60K

File type ascii-kn

Comments errors in n and k can occur below 1000 cm⁻¹ because Far-IR spectrum not taken into account in KK analysis

Spectrum origin and history

Created 1995-12-24

Last updated 2011-12-06

History 2011-12-06: new optical constant spectrum (mid-IR)

Spectrum analysis and validation

Analysis Iterative inversion of full optical model of the film+substrate + Kramers-Kronig analysis (but MIR only) - F. Trotta thesis

Quality flag 4

Validated 1995-12-24

Validator name F. Trotta

[View instrument parameters](#)

Samples

Actions	ID	Name	Number of layers	Substrate material
View	13	H2O crystalline - dep 145K - film 0.74µm	1	KBr window, 2mm thick

Spectra

Actions	ID	Type	File title	Analysis	Quality	Date
View	29	transmission		no: raw calibrated transmission spectrum - slope due to spectral interference fringe	3	2011-08-16

Experiment

The screenshot shows a web browser window with the URL 'GhoSST / data / detail - Icweweasel'. The page has a blue header with the GhoSST logo and navigation tabs: Home, Search, Data, Producer, Manager, and User. The main content area is titled 'Data / Experiment' and contains the following sections:

- Experiment**: ID 1, Sample ID 2, Experimentalist Will Grundy - Post-Doc, Date 1996-07-02. Includes a button 'Export all spectra of this experiment'.
- Instrument**: Technique name Nicolet 800 – NIR, Instrument type FTIR spectrometer, Instrumental technique transmission. Includes a link 'More details...'.
- Experimentalist laboratory**: Name Laboratoire de Glaciologie et Géophysique de l'Environnement, Univ. J. Fourier - CNRS/OSUG. Includes a link 'More details...'.
- Sample**: ID 2, Sample name CH4 Crystal 100µm, Surface roughness very low, Thickness 0.1 mm, Number of layers 1, Substrate material 2 MgF2 windows (parallel in closed cell), 2mm thick, Processing type thermal. Includes a link 'More details...'.
- Spectra**: A table with columns for Actions, ID, Type, File title, Analysis, Quality, and Date.

Actions	ID	Type	File title	Analysis	Quality	Date
View	1	transmission	NB7_R01 METHANE LIQUID 92 K (APPROX)	no: raw calibrated transmission spectrum	4	2011-08-04

Instrument

GhoSST / data / detail - Iceweasel

Iceweasel GhoSST / data / detail

Home Search Data Producer Manager User

GhoSST

Data / Advanced spectrum / Instrument parameters

Instrument parameters

Spectral parameters

Spectral unit cm-1
Spectral range number 2

ID	Filter source	Filter detector	Spectral range min	Spectral range max	Spectral sampling	Spectral resolution
160			606.5	4008	0.482146127	0.92
30	no	no	400	6500	0.48214611411095	0.92

Spatial modes and parameters (microscope, ...)

Spatial measures (x) 1
Spatial measures (y) 1

ID	Spatial resolution	Spatial resolution error	Spatial resolution wavelength
20	8	1	0

Instrument angular parameters

Instrument polarization parameters

Illumination type no
Observation type no

Instrument

Technique name Nicolet 800 - MIR
Instrument type FTIR spectrometer
Instrumental technique transmission

[More details...](#)

[Documentation](#) • [Contact](#) • [Credits](#)

Instrument

The screenshot shows a web browser window with the URL 'GhoSST / data / detail - Iceweasel'. The page has a navigation menu with 'Home', 'Search', 'Data', 'Producer', 'Manager', and 'User'. The main content area is titled 'Data / Instrument' and features the GhoSST logo. The instrument details are as follows:

Instrument
ID: 17

Instrument description
Technique name: Nicolet 800 - MIR
Name: Nicolet 800
Instrument type: FTIR spectrometer

Instrument techniques description
Instrumental technique: transmission
Source: Global-IR
Source wavelength: MIR-FIR
Source power (W): 100
Spectral analyzer: KBr/Ge Beamsplitter
Detector: DTGS-KBr

Instrument references
Documentation: Nicolet-800.pdf

Experimentalist laboratory
Name: Laboratoire de Glaciologie et Géophysique de l'Environnement, Univ. J. Fourier - CNRS/OSUG

[More details...](#)

Experiments

Actions	ID	Parent experiment ID	Experimentalist	Date
View	4		Frédéric Trotta - PhD	1995-04-25
View	5	4	Frédéric Trotta - PhD	1995-04-25
View	6	5	Frédéric Trotta - PhD	1995-04-25
View	8	6	Frédéric Trotta - PhD	1995-04-25
View	9		Frédéric Trotta - PhD	1995-04-25
View	10	8	Frédéric Trotta - PhD	1995-04-25

Instrument

GhoSST / data / detail - iceweasel

Home Search Data Producer Manager User

Data / Laboratory

Laboratory

ID 3
 Name Laboratoire de Glaciologie et Gèophysique de l'Environnement, Univ. J. Fourier - CNRS/OSUG
 Acronym LGGE
 Address 54 rue Molière, BP 96, 38402 Saint-Martin d'Hères cedex, France
 Comments url: http://lgge.osug.fr/

Instruments

Actions	Technique name	Instrument type	Instrumental technique
View	Nicollet 800 – VIS/blue	FTIR spectrometer	transmission
View	Nicollet 800 – VIS/red	FTIR spectrometer	transmission
View	Nicollet 800 – NIR	FTIR spectrometer	transmission
View	Nicollet 800 – NIR-NIR	FTIR spectrometer	transmission
View	Nicollet 800 – MFR	FTIR spectrometer	transmission
View	Nicollet 800 – FIR	FTIR spectrometer	transmission
View	Spectrimag - Vis-NIR	simulation	Douté+Schmitt 1998 model

Experiments

Actions	ID	Parent experiment ID	Experimentalist	Date
View	1		Will Grundy - Post-Doc	1996-07-02
View	2		Will Grundy - Post-Doc	1996-07-02
View	3	2	Will Grundy - Post-Doc	1996-07-02
View	4		Frédéric Trotta - PhD	1995-04-25
View	5	4	Frédéric Trotta - PhD	1995-04-25
View	6	5	Frédéric Trotta - PhD	1995-04-25
View	8	6	Frédéric Trotta - PhD	1995-04-25
View	9		Frédéric Trotta - PhD	1995-04-25
View	10	8	Frédéric Trotta - PhD	1995-04-25
View	19		Frédéric Trotta - PhD	1995-11-12

Sample

GhoSST / data / detail - Iceweasel

Iceweasel GhoSST / data / detail

Home Search Data Producer Manager User

GhoSST

Data / Experiment / Sample

Sample

Sample name and references

ID 2
 Sample name CH4 Crystal 100µm
 Sample is generic false
 Sample is matter false
 Date 1996-03-07
 Comments horizontal cylindrical sample

Sample physical characteristics

Surface roughness very low
 Thickness 0.1 mm
 Thickness error 0.001 mm
 Diameter 23
 Volume 150

Sample layers organization

Number of layers 1

Sample substrate

Substrate material 2 MgF2 windows (parallel in closed cell), 2mm thick

Sample processings

Processing type thermal

[More details on processing...](#)

Layers

Actions	ID	Order	Type	Thickness	Mass (g)	Texture	Nb of materials	Materials mixing
View	2	1	slab	0.1 mm		compact	1	

Experiment

ID 1

Sample

GhoSST / data / detail - Icwesael

Icwesael GhoSST / data / detail

Diameter 23
Volume 150

Sample layers organization
Number of layers 1

Sample substrate
Substrate material 2 MgF2 windows (parallel in closed cell), 2mm thick

Sample processings
Processing type thermal
[More details on processing...](#)

Layers

Actions	ID	Order	Type	Thickness	Mass (g)	Texture	lib of materials	Materials mixing
View	2	1	slab	0.1 mm		compact	1	

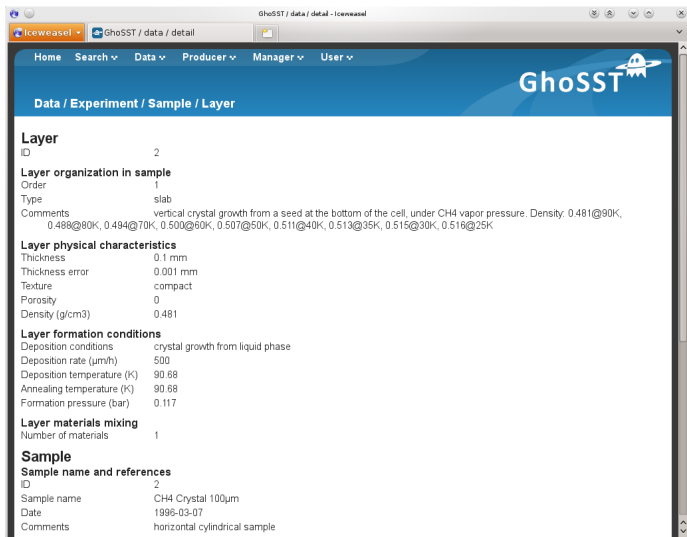
Experiment
ID 1
Experimentalist Will Grundy - Post-Doc
Date 1996-07-02
[More details...](#)

Spectra

Actions	ID	Type	File title	Analysis	Quality	Date
View	1	transmission	NB7_R01 METHANE LIQUID 92 K (APPROX)	no: raw calibrated transmission spectrum	4	2011-06-04
View	3	transmission	NB7_R02 CH4 ICE 90 K	no: raw calibrated transmission spectrum	4	2011-06-04
View	4	transmission	NB7_R03 CH4 ICE 80 K	no: raw calibrated transmission spectrum	4	2011-06-04
View	5	transmission	NB7_R04 CH4 ICE 70 K	no: raw calibrated transmission spectrum	4	2011-06-04
View	6	transmission	NB7_S05 CH4 ICE 60 K	no: raw calibrated transmission spectrum	4	2011-06-04
View	7	transmission	NB7_S06 CH4 ICE 50 K	no: raw calibrated transmission spectrum	4	2011-06-04
View	8	transmission	NB7_S07 CH4 ICE 40 K	no: raw calibrated transmission spectrum	4	2011-06-04
View	9	transmission	NB7_S08 CH4 ICE 35 K	no: raw calibrated transmission spectrum	4	2011-06-04
View	10	transmission	NB7_S09 CH4 ICE 30 K	no: raw calibrated transmission spectrum	4	2011-06-04
View	11	transmission	NB7_S10 CH4 ICE 25 K	no: raw calibrated transmission spectrum	4	2011-06-04

[Documentation](#) • [Contact](#) • [Credits](#)

Layer



GhoSST / data / detail - Iceweasel

Iceweasel GhoSST / data / detail

Home Search Data Producer Manager User

GhoSST

Data / Experiment / Sample / Layer

Layer

ID 2

Layer organization in sample

Order 1

Type slab

Comments vertical crystal growth from a seed at the bottom of the cell, under CH4 vapor pressure. Density: 0.481@90K, 0.488@80K, 0.494@70K, 0.500@60K, 0.507@50K, 0.511@40K, 0.513@35K, 0.515@30K, 0.516@25K

Layer physical characteristics

Thickness 0.1 mm

Thickness error 0.001 mm

Texture compact

Porosity 0

Density (g/cm3) 0.481

Layer formation conditions

Deposition conditions crystal growth from liquid phase

Deposition rate (μm/h) 500

Deposition temperature (K) 90.68

Annealing temperature (K) 90.68

Formation pressure (bar) 0.117

Layer materials mixing

Number of materials 1

Sample

Sample name and references

ID 2

Sample name CH4 Crystal 100μm

Date 1996-03-07

Comments horizontal cylindrical sample

Layer

Layer formation conditions

Deposition conditions crystal growth from liquid phase
 Deposition rate ($\mu\text{m/h}$) 500
 Deposition temperature (K) 90.68
 Annealing temperature (K) 90.68
 Formation pressure (bar) 0.117

Layer materials mixing

Number of materials 1

Sample

Sample name and references

ID 2
 Sample name CH₄ Crystal 100 μm
 Date 1996-03-07
 Comments horizontal cylindrical sample

Sample physical characteristics

Surface roughness very low
 Thickness 0.1 mm

Sample layers organization

Number of layers 1

Sample substrate

Substrate material 2 MgF₂ windows (parallel in closed cell), 2mm thick

Sample processings

Processing type thermal
 Temperature (K) 90
 Annealing temperature (K) 90.68
 Pressure (bar) 0.108

[More details...](#)

Materials

Actions	ID	Name	Matter origin	Matter family	Mole fraction	Mass fraction	Constituents number
View	3	CH ₄ Crystal	synthetic	molecular	1		1

[Documentation](#) • [Contact](#) • [Credits](#)

Material

The screenshot shows a web browser window with the URL 'GhoSST / data / detail - Icwaseel'. The page has a blue header with the GhoSST logo and navigation links: Home, Search, Data, Producer, Manager, User. Below the header is a breadcrumb trail: Data / Experiment / Sample / Layer / Material.

Material

ID 3

Material name and type

Name CH4 Crystal
 Matter origin synthetic
 Matter family molecular
 Comments grain size is lateral size, other size limited by thickness = 0.1mm. Density at 90K

Material abundance in layer

Mole fraction (mol) 1
 Mole fraction error (mol) 0.0001

Texture of material

Grain shape angular convex
 Grain size min 5 mm
 Grain size max 12 mm
 Grain size distribution unknown, a dozen of crystals seen by visual inspection (laser aided)
 Grain texture compact
 Bulk density (g/cm3) 0.481

Material constituents organization

Constituents number 1
 Constituents mixing single phase

Material precursors and processing

Precursors

Precursors number 1

Processing

Method crystal growth from liquid CH4 phase
 Temperature (K) 90.68
 Annealing temperature (K) 90.68

Constituent

GhoSST / data / detail - Icwesael

Icwesael GhoSST / data / detail

Data / Experiment / Sample / Layer / Material / Constituent

Constituent

ID 4
Name CH4 solid

Constituent type and organization in material

Family molecular solid
Arrangement single

Constituent abundance in material

Mole fraction (mol) 1
Mole fraction error (mol) 0.0001

Constituent state

Phase type crystalline
Phase Phase IFm3c
Texture polycrystal

Constituent species organization

Species number 3
Species compound pure
Species sorption no

Species

Actions	ID	Name	Family	Compound state	Relevance	Mole fraction	Mole fraction error	Mass fraction	Mass fraction error	Comments
View	1	Methane	molecular	pure	actual	0.9997	0.0003			
View	19	Carbon dioxide	molecular	pure	impurity	0.0001	2.0E-5			impurity from gas bottle
View	32	Water	molecular	pure	impurity	0.0002	2.0E-5			impurity from gas lines

Also linked to Materials

Actions	ID	Name	Matter origin	Matter family	Mole fraction	Mass fraction	Constituents number
View	3	CH4 Crystal	synthetic	molecular	1		1

[Documentation](#) • [Contact](#) • [Credits](#)

Molecule

GhoSST / data / detail - iceweasel

iceweasel GhoSST / data / detail

Home Search Data Producer Manager User

GhoSST

Data / Experiment / Sample / Layer / Material / Constituent / Molecule

Molecule

ID 1
 Type molecule
 Stoichiometric formula CH4
 Structural formula [H][C]([H])([H])[H]
 Common name Methane
 Secondary name Methyl hydride
 IUPAC name Methane
 Molar mass (g/mol) 16.04249891
 Ion charge 0
 InChI 1S/CH4/h1H4
 InChI key VNWVKOKETHGBQD-UHFFFAOYSA-N
 CAS number 74-82-8
 Natural mixture true
 Comments natural CH4

Atoms

Actions	ID	Symbol	Name	IUPAC name	Atomic number Z	Mass number A	Natural mixture
View	1	H	Hydrogen	Hydrogen	1		true
View	8	C	Carbon	Carbon	6		true

Constituents

Actions	ID	Family	Arrangement	Phase type	Phase	Compound	Molecule state	Relevance	Mole fraction
View	1	molecular gas	single	gas		pure	pure	precursor	1
View	2	molecular liquid	single	liquid	liquid	pure	pure	actual	0.9997
View	3	molecular liquid	single	liquid		pure	pure	precursor	1
View	4	molecular solid	single	crystalline	Phase I Fm3c	pure	pure	actual	0.9997
View	5	molecular gas	single	gas		pure	pure	precursor	1
View	6	molecular solid	single	crystalline	Phase II - Fm3c (o-p)	pure	pure	actual	0.9997

GhoSST / data / detail - Iceweasel

Iceweasel | GhoSST / data / detail

Home Search Data Producer Manager User

Data / Atom

Atom

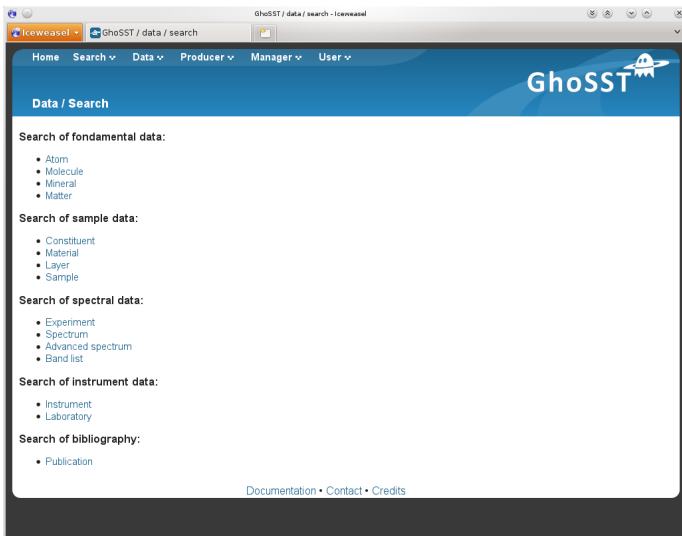
ID 1
 Symbol H
 Name Hydrogen
 IUPAC name Hydrogen
 Atomic number Z 1
 Molar mass (g/mol) 1.00794
 Charge 0
 Inchi 1/H
 CAS number 12408-02-5
 Isotopic natural mixture true
 Comments natural H

Molecules

Actions	ID	Type	Stoichiometric formula	Common name	IUPAC name	Isotopic natural mixture	Natural isotopic abundance
View	1	molecule	CH4	Methane	Methane	true	
View	32	molecule	H2O	Water	Water	true	
View	42	molecule	H2S	Hydrogen sulfide	Hydrogen sulfide	true	

[Documentation](#) • [Contact](#) • [Credits](#)

Search data



The screenshot shows a web browser window with the URL "GhoSST / data / search - Iceweasel". The page has a blue header with the GhoSST logo and a navigation menu with items: Home, Search, Data, Producer, Manager, and User. Below the header, the page is titled "Data / Search".

Search of fondamental data:

- Atom
- Molecule
- Mineral
- Matter

Search of sample data:

- Constituent
- Material
- Layer
- Sample

Search of spectral data:

- Experiment
- Spectrum
- Advanced spectrum
- Band list

Search of instrument data:

- Instrument
- Laboratory

Search of bibliography:

- Publication

At the bottom of the page, there are links for [Documentation](#), [Contact](#), and [Credits](#).

Search data

The screenshot shows a web browser window with the URL "GhoSST / data / search - Iceweasel". The browser's address bar shows "Iceweasel" and "GhoSST / data / search". The page has a blue header with the GhoSST logo (a stylized alien head) and navigation links: Home, Search, Data, Producer, Manager, and User. Below the header, the breadcrumb "Data / Search / Experiment" is displayed. The main content area is titled "Experiment search" and contains a form with the following fields and options:

- Experiment ID:
- Including parent/sons experiments:
- Sample ID:
- Including parent/sons samples:
- Spectrum ID:
- Including parent/sons spectra:
- Experimentalist:

At the bottom of the form are "Reset" and "Search" buttons. Below the form, there are links for "Documentation", "Contact", and "Credits".

Search data

The screenshot shows the GhoSST data search interface. The browser address bar displays "GhoSST / data / search". The page has a navigation menu with "Home", "Search", "Data", "Producer", "Manager", and "User". The main content area is titled "Data / Search / Instrument" and features a search form for instruments. The form includes fields for ID, Name, Type, Technique, and Laboratory. The "Type" dropdown is set to "All" and shows options: FTIR spectrometer, Grating spectrometer, and AOTF spectrometer. The "Technique" dropdown is also set to "All" and shows options: Transmission, Reflection, and Biconical reflection. Below the form are "Reset" and "Search" buttons. A section titled "Instruments list" contains a table with 13 rows of instrument data.

ID	Technique name	Type	Technique	Source wavelength	Laboratory
1	Nicolet 800 - VISblue	FTIR spectrometer	transmission	Vis-NR	Laboratoire de Planétologie de Grenoble
2	Nicolet 800 - VISred	FTIR spectrometer	transmission	Vis-NR	Laboratoire de Planétologie de Grenoble
3	Nicolet 800 - NR	FTIR spectrometer	transmission	Vis-NR	Laboratoire de Planétologie de Grenoble
4	Nicolet 800 - NR-MR	FTIR spectrometer	transmission	Vis-NR	Laboratoire de Planétologie de Grenoble
5	Nicolet 800 - MR	FTIR spectrometer	transmission	MR-FIR	Laboratoire de Planétologie de Grenoble
6	Nicolet 800 - FIR	FTIR spectrometer	transmission	MR-FIR	Laboratoire de Planétologie de Grenoble
7	Nicolet 800 - VISblue	FTIR spectrometer	transmission	Vis-NR	Institut de Planétologie et Astrophysique
8	Nicolet 800 - VISred	FTIR spectrometer	transmission	Vis-NR	Institut de Planétologie et Astrophysique
9	Nicolet 800 - NR	FTIR spectrometer	transmission	Vis-NR	Institut de Planétologie et Astrophysique
10	Nicolet 800 - NR-MR	FTIR spectrometer	transmission	Vis-NR	Institut de Planétologie et Astrophysique
11	Nicolet 800 - MR	FTIR spectrometer	transmission	MR-FIR	Institut de Planétologie et Astrophysique
12	Nicolet 800 - FIR	FTIR spectrometer	transmission	MR-FIR	Institut de Planétologie et Astrophysique
13	Nicolet 800 - VISblue	FTIR spectrometer	transmission	Vis-NR	Laboratoire de Glaciologie et Géophysique

Search data

GhoSST / data / search - Iceweasel

Home Search Data Producer Manager User

GhoSST

Data / Search / Molecule

Molecules search

Molecule

ID

Type

- ← All --
- Molecule
- Molecular ion
- Radical

Formula

Name

InChI / CAS

Excluding isotopes

Reset

Molecules list

ID	Type	Stoichiometric formula	Common name	IUPAC name	Isotopic natural mixture	Natural isotopic abundance
1	molecule	CH4	Methane	Methane	true	
2	molecule	CH4	Methane	(12C,1H4)/Methane	false	0.988845
3	molecule	CH4	Methane	(12C,1H3,2H)/Methane	false	0.000454921
4	molecule	CH4	Methane	(12C,1H2,2H2)/Methane	false	7.84829E-8
5	molecule	CH4	Methane	(12C,1H,2H3)/Methane	false	6.01771E-12
6	molecule	CH4	Methane	(12C,2H4)/Methane	false	1.73029E-16
7	molecule	CH4	Methane	(13C,1H4)/Methane	false	0.010695079
8	molecule	CH4	Methane	(13C,1H3,2H)/Methane	false	4.9203E-6
9	molecule	CH4	Methane	(13C,1H2,2H2)/Methane	false	8.4895E-10
10	molecule	CH4	Methane	(13C,1H,2H3)/Methane	false	6.5086E-14
11	molecule	CH4	Methane	(13C,2H4)/Methane	false	1.87144E-18
12	molecule	CO	Carbon monoxide	Carbon monoxide	true	
13	molecule	CO	Carbon monoxide	(12C,16O)/Carbon monoxide	false	0.988996001
14	molecule	CO	Carbon monoxide	(12C,17O)/Carbon monoxide	false	0.000375934

Search data

GhoSST / data / search - Icenweasel

Home Search Data Producer Manager User

GhoSST

Data / Search / Sample

Samples search

Sample

Sample ID

Sample name

Including parent/sons samples

Sample type

- All --
- Sample
- Generic
- Matter

Processing type

- All --
- Thermal
- Pressure
- Fluid

Layer

Layer type

- All --
- Granular
- Compact film
- Slab

Layer deposition condition

Material

Material ID

Matter origin

- All --
- Terrestrial
- Extraterrestrial
- Synthetic

Matter family

- All --
- Molecular
- Mineral
- Rock

Constituent

Constituent ID

Export options

The screenshot shows the GhoSST web interface for the 'Data / Export' section. The page title is 'Spectra'. Below the title is a table with the following data:

Actions	ID	Type	File title	Spectral range min	Spectral range max	Sample temperature	Species	Date
View	6	transmission	N87_S05 CH4 ICE 60 K	1850	10500	-	-	2011-08-04

Below the table are several configuration panels for export options:

- Wavenumber/Wavelength/Frequency:** Unit (cm-1), Format (Float), Number of significant digits (10), Number of decimals (3).
- Spectral range:** Range type (Whole data range), Min, Max.
- Value/Intensity:** Format (Scientific (e)), Number of significant digits (11), Number of decimals (5).
- Spectra data file:** Type (Spectrum data with short header), Format (ASCII).
- Export archive file:** Filename, Compression type (.tar.gz (GZip)).

Export history

The screenshot shows a web browser window with the URL 'GhoSST / user / history - Iceweasel'. The page has a blue header with the GhoSST logo and a navigation menu with items: Home, Search, Data, Producer, Manager, and User. Below the header, the page title is 'User / Export history'. The main content area is titled 'Export history' and contains a table with the following data:

ID	Type	Spectrum ID (first)	Spectrum ID (last)	Experiment ID	Sample ID	Date
3	Advanced spectrum					2012-01-12

Below the table, there are links for [Documentation](#), [Contact](#), and [Credits](#).

Profile

GhoSST / user / update - Iceweasel

Iceweasel GhoSST / user / update

Home Search Data Producer Manager User

GhoSST

User / Update

User informations

E-mail address

Current password

New password

Re-type password

Personal informations (optional)

First name

Last name

Country

City

University / Company

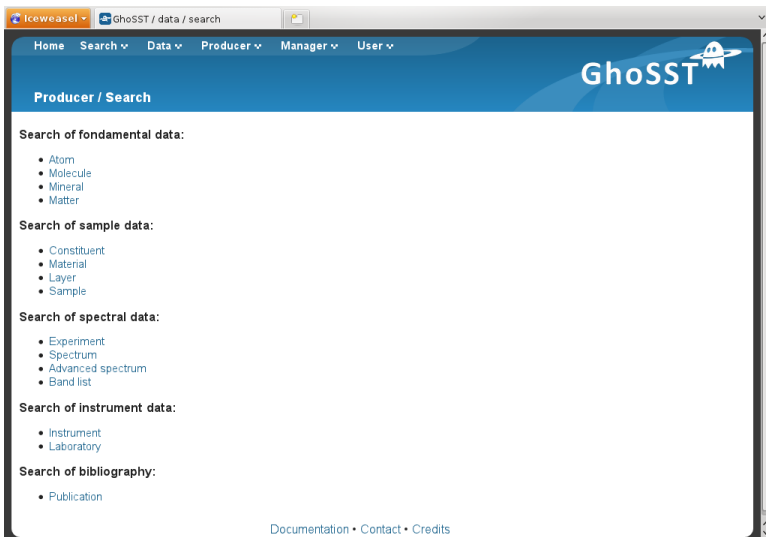
Laboratory / Division

[Documentation](#) • [Contact](#) • [Credits](#)

Outline

- 1 Guest access
- 2 Registered user access
- 3 Producer access**
 - Search
 - Import
- 4 Misc

Search all data



The screenshot shows a web browser window with the URL "GhoSST / data / search". The page has a blue header with the GhoSST logo (a stylized alien head) and a navigation menu with "Home", "Search", "Data", "Producer", "Manager", and "User". Below the header, the page is titled "Producer / Search".

Search of fundamental data:

- Atom
- Molecule
- Mineral
- Matter

Search of sample data:

- Constituent
- Material
- Layer
- Sample

Search of spectral data:

- Experiment
- Spectrum
- Advanced spectrum
- Band list

Search of instrument data:

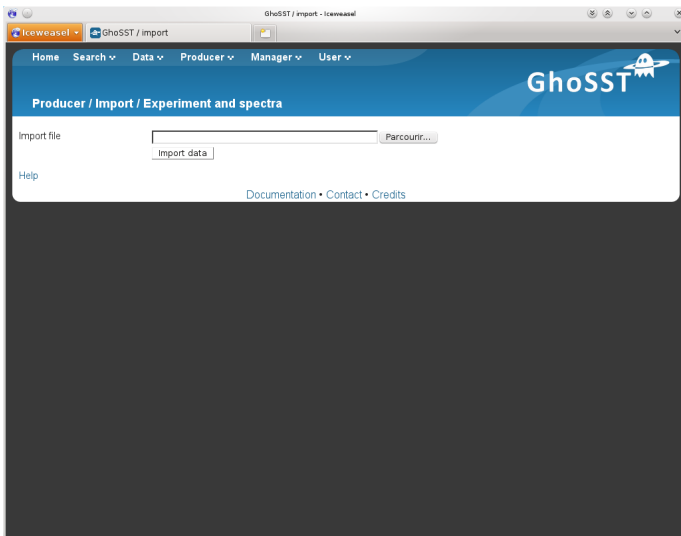
- Instrument
- Laboratory

Search of bibliography:

- Publication

At the bottom of the page, there are links for "Documentation", "Contact", and "Credits".

Import data



Import data

Home Search Data Producer Manager User

GhoSST

Producer / Import / Experiment and spectra

Import file Parcourir...

```
*Archive experiment_wet_snow_S2_v6.zip processed: 18 files and 2 directories extracted.
Warning The archive should not contain any directories for the import to work properly. Attempting the import, but results may vary...
*Processed import file: experiment_spectra_wet_snow_S2_v6.xml.
*Import type: Experiment spectra.
*Database indexes: (preferences are shown in italics)
  Experiment: Marie Dumont - PhD - 2008-01-08. Index: 71
  Spectrum: neige2_i0_e30_a0.txt. Index: 135
    Spectrum values: 108
  Spectrum: neige2_i0_e60_a0.txt. Index: 136
    Spectrum values: 108
  Spectrum: neige2_i0_e70_a0.txt. Index: 137
    Spectrum values: 108
  Spectrum: neige2_i0_e-30_a0.txt. Index: 138
    Spectrum values: 108
  Spectrum: neige2_i0_e-60_a0.txt. Index: 139
    Spectrum values: 108
  Spectrum: neige2_i0_e-70_a0.txt. Index: 140
    Spectrum values: 108
  Spectrum: neige2_i30_a0.txt. Index: 141
    Spectrum values: 108
  Spectrum: neige2_i30_e60_a0.txt. Index: 142
    Spectrum values: 108
  Spectrum: neige2_i30_e70_a0.txt. Index: 143
    Spectrum values: 108
  Spectrum: neige2_i30_e-30_a0.txt. Index: 144
    Spectrum values: 108
  Spectrum: neige2_i30_e-60_a0.txt. Index: 145
    Spectrum values: 108
  Spectrum: neige2_i30_e-70_a0.txt. Index: 146
    Spectrum values: 108
  Spectrum: neige2_i60_a0.txt. Index: 147
    Spectrum values: 108
  Spectrum: neige2_i60_e30_a0.txt. Index: 148
    Spectrum values: 108
  Spectrum: neige2_i60_e-30_a0.txt. Index: 149
    Spectrum values: 108
  Spectrum: neige2_i60_e-60_a0.txt. Index: 150
```

Import history

The screenshot shows the GhoSST Manager / Import history web interface. The page has a navigation bar with 'Home', 'Search', 'Data', 'Producer', 'Manager', and 'User'. The main heading is 'Manager / Import history'. Below this is a 'History import' section with a search form containing fields for 'Producer name', 'Import type' (with a dropdown menu showing options like 'All --', 'Import sample', 'Import experiment spectra', and 'Import experiment sample spectra'), 'Date min (YYYY-MM-DD)', and 'Date max (YYYY-MM-DD)'. There are 'Reset' and 'Search' buttons. Below the form is an 'Import list' table with 15 rows of data.

ID	Import type	Sample / Experiment	Spectrum / Species / Instrument / Laboratory (First)	Spectrum / Species / Instrument / Laboratory (Last)	Date	Producer name
1	Species		1	59	2011-08-04	Bernard Schmitt
2	Species		1	11	2011-08-04	Bernard Schmitt
3	Species		12	18	2011-08-04	Bernard Schmitt
4	Species		19	31	2011-08-04	Bernard Schmitt
5	Species		32	41	2011-08-04	Bernard Schmitt
6	Species		42	51	2011-08-04	Bernard Schmitt
7	Species		52	55	2011-08-04	Bernard Schmitt
8	Species		56	75	2011-08-04	Bernard Schmitt
9	Laboratory		1	3	2011-08-04	Bernard Schmitt
10	Instrument		1	6	2011-08-04	Bernard Schmitt
11	Instrument		7	12	2011-08-04	Bernard Schmitt
12	Sample	1			2011-08-04	Bernard Schmitt
13	Sample	2			2011-08-04	Bernard Schmitt
14	Instrument		13	18	2011-08-04	Bernard Schmitt
15	Experiment spectra		1	1	2011-08-04	Bernard Schmitt

Outline

- 1 Guest access
- 2 Registered user access
- 3 Producer access
- 4 Misc**
 - Contact
 - Documentation

Contact

The screenshot shows a web browser window titled "GhoSST / contact - Iceweasel". The browser's address bar shows "GhoSST / contact". The page has a blue header with the "GhoSST" logo and a navigation menu with items: Home, Search, Data, Producer, Manager, and User. Below the header, the page title is "Contact".

The main content area contains a form with the following fields:

- Type of mail: Question (dropdown menu)
- Type of data: (dropdown menu)
- Data ID: (text input field)
- Material family: (dropdown menu)
- GhoSST page: (dropdown menu)

Below the form is a large text area labeled "Message". At the bottom of the form is a "Send" button.

At the bottom of the page, there are links for "Documentation", "Contact", and "Credits".

The screenshot shows a web browser window titled "Documentation - GhoSSTWiki - Iceweasel". The address bar shows "Documentation - GhoSSTWiki". The page content includes:

- GhoSST** logo (a stylized alien head) and the text "GhoSST".
- Navigation links: "Wiki home page", "GhoSST home page".
- Toolbox links: "What links here", "Related changes", "Special pages", "Printable version", "Permanent link".
- Page tabs: "Page", "Discussion", "Read", "View source", "View history".
- Search bar with "Go" and "Search" buttons.
- Section header: "Documentation" (Redirected from [Main Page](#)).
- List of links:
 - [GhoSST user manual](#)
 - [Rules to use and cite GhoSST data](#)
 - [SSDM data model](#)
 - [Experimental systems description](#)
- Text: "To go back to the GhoSST home page: <http://ghosst-prod.obs.ujf-grenoble.fr/>".
- Text: "This page was last modified on 18 July 2011, at 08:43." and "This page has been accessed 212 times."
- Text: "Privacy policy", "About GhoSSTWiki", "Disclaimers".
- Logo: "Powered by Mediawiki".

To do during this year...

Enhancements

- GUI
- ACL
- forms and pages

New developments

- import/export of bibliography
- complex search

Conclusion

Questions?