Observatoires Virtuels France

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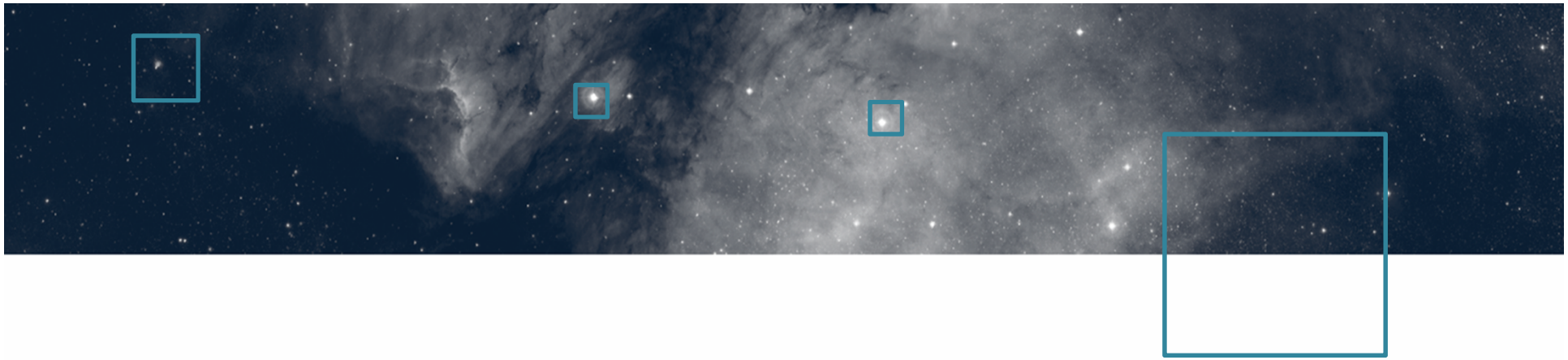
ASTRONOMIQUES DE STRASBOURG

At this meeting

- 126 participants, 50 from French labs
- Paris Observatory (PADC and most Departments/Institute),

  Strasbourg CDS and Observatory,

  Grenoble, Marseille, Montpellier, Paris-Sud, Toulouse
- Astronomy, planetary sciences, atomic and molecular physics, astroparticle physics, geophysics (GIS)
- *French astronomical society meeting in Nice this week*



HOW DID IT BUILT UP?

Starting point: the CDS

- Created in 1972 with the mission to:
  - collect useful information concerning astronomical objects that is available in computerized form;
  - upgrade these data by critical evaluations and comparisons;
  - distribute the results to the astronomical community;
  - conduct research, using these data.
- SIMBAD 1971 (precursor), VizieR 1996, Aladin Java 1999
- First web service: 1993

Pre-VO standards and tools at CDS

- Interoperability in 1998
  - CDS GLU : registry of distributed resources which keeps track of the web addresses and allows automated modification in all web pages by changing the registry record
  - Aladin: interactive sky atlas giving access to distributed image archives
  - Unified Content Descriptors: describing quantities, derived from 100 000 VizieR columns, ESO/CDS Data Mining Project, will be one of the first VO standards
- In 1999: astrores
  - Describing astronomical catalogues and query results with XML

    Ochsenbein et al., 2000 (ADASS 1999)
- In 2001: IDHA project, precursor of the Characterization Data Model

A slide presented to the CDS SC in Nov. 2001

Interoperability standards

- Essential ingredients of the global VO

  Information retrieval, information exchange, integration of query results, common tools

- AVO/NVO collaboration

  Visit of R. Williams (VO architect)

  → Starting point of the first VO standard, VOTable (March 2002)

- A roadmap for the VO Garching meeting

  (May 2002)

  → IVOA created at this meeting

F. Genova, CDS Council meeting, 2001/11/27-28 14

Pre-IVOA Interoperability Meeting

Strasbourg, 28-29 January 2002

- Meeting of the OPTICON Interoperability Working Group
- VOTable (finalised in March 2002)
- 2001: AVO, NVO and AstroGRID
- May 2002: IVOA

Action Spécifique Observatoire Virtuels France

- Regular strategic exercises CNRS-INSU (Universe Sciences National Institute)
- Astronomy-Astrophysics 2003
  - Recommends the creation of a coordination structure at the national level
  - Recommends to begin to assess inclusion of modelling data in the Virtual Observatory
- The coordination activity has been regularly evaluated positively since then

OV France = ASOV

- Creation of the Action Spécifique Observatoires Virtuels France in 2004
- Created by CNRS-INSU with support from CNES
- Scientific Council: representatives of the Scientific Programmes which cover the different sub-disciplines of astronomy + a few specialists

ASOV mandate

- The ASOV Chair is the French VO representative in the IVOA Exec
- ASOV role
  - Coordinate VO activities at the national level
  - Disseminate VO standards and methods

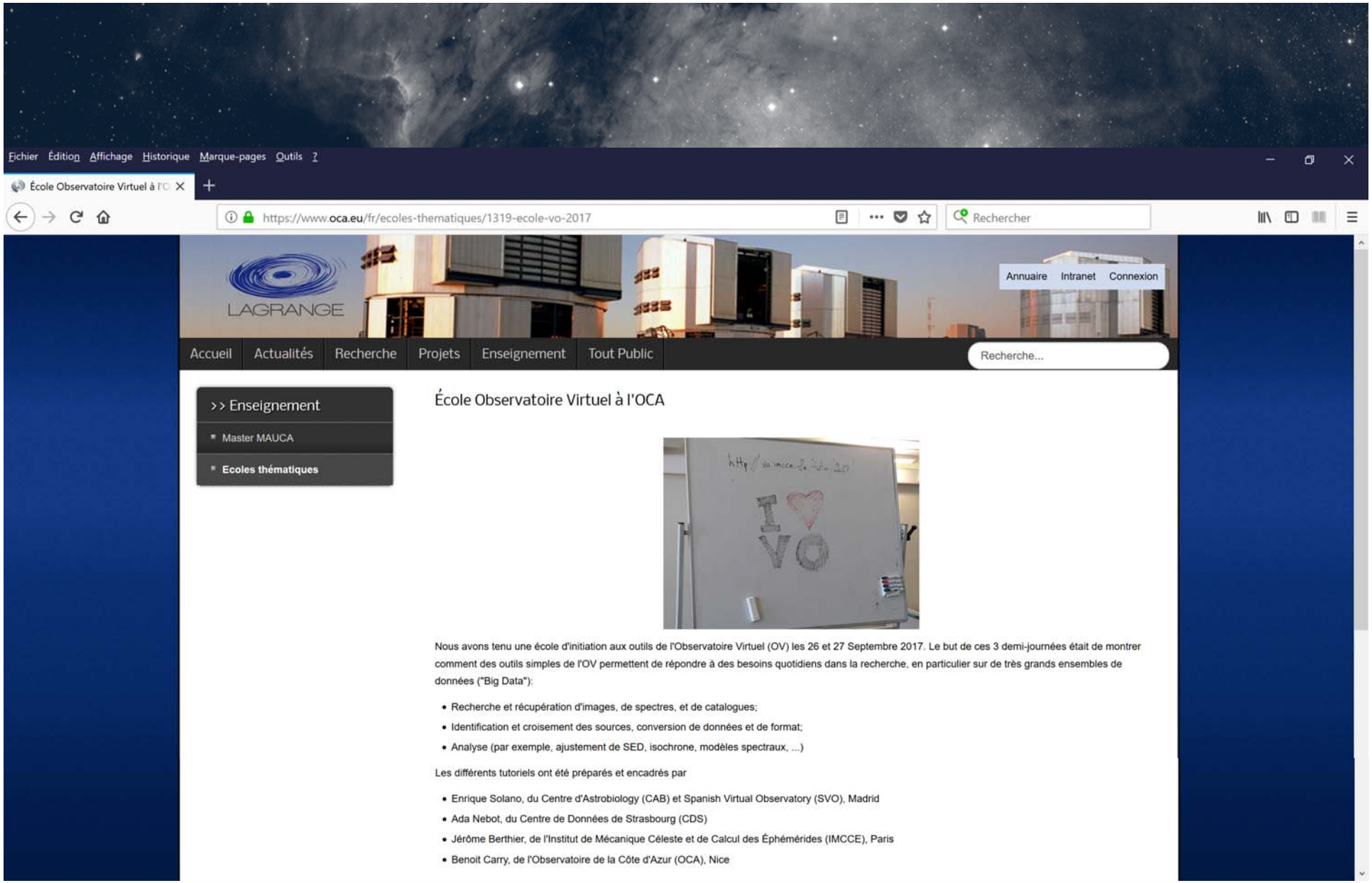
    >> Coordination of technical exchanges between teams working on scientific data
  - Synergy with the Programmes
- Covers all the disciplines of « CNRS Section 17 »
  - Astronomy
  - Solar system and solar studies
  - Space plasma physics
  - The astronomy facet of astroparticule physics
  - Atomic and molecular physics of astronomical interest

ASOV activities

- Support to travels to IVOA meetings and similar meetings for other disciplines (since Pune 2004)
  - Exec, WG/IG chairs/vice-chairs, one person per lab
- Support to collaboration meetings between French teams, regional and thematic meetings
- *Support to this meeting*
- An annual meeting
- Since 2016, the meeting is organised back-to-back with a « Semi-Hack-a-Thon »

Activities towards the science community in France

- A few schools organised by ASOV
- French participants in the annual Schools organised by the VO European projects
- Courses in doctoral schools
- Local initiatives, for instance in Nice 2017, 2019
- ASOV can support tutors' travel costs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École Observatoire Virtuel à l'O
https://www.oca.eu/fr/ecoles-thematiques/1319-ecole-vo-2017
Rechercher
LAGRANGE
Annuaire Intranet Connexion
Accueil Actualités Recherche Projets Enseignement Tout Public
Recherche...
>> Enseignement
Master MAUCA
Ecoles thématiques
École Observatoire Virtuel à l'OCA
Nous avons tenu une école d'initiation aux outils de l'Observatoire Virtuel (OV) les 26 et 27 Septembre 2017. Le but de ces 3 demi-journées était de montrer comment des outils simples de l'OV permettent de répondre à des besoins quotidiens dans la recherche, en particulier sur de très grands ensembles de données ("Big Data"):
• Recherche et récupération d'images, de spectres, et de catalogues;
• Identification et croisement des sources, conversion de données et de format;
• Analyse (par exemple, ajustement de SED, isochrone, modèles spectraux, ...)
Les différents tutoriels ont été préparés et encadrés par
• Enrique Solano, du Centre d'Astrobiology (CAB) et Spanish Virtual Observatory (SVO), Madrid
• Ada Nebot, du Centre de Données de Strasbourg (CDS)
• Jérôme Berthier, de l'Institut de Mécanique Céleste et de Calcul des Éphémérides (IMCCE), Paris
• Benoit Carry, de l'Observatoire de la Côte d'Azur (OCA), Nice

ASOV impact

- Structuring role at the national level
- Creation of a French VO community, very active in the IVOA
  - Training on the implementation of IVOA standards since 2004
  - Significant participation in IVOA meetings and in WG/IG leadership
  - CDS was the starting point and has been a pillar of ASOV, now it is a national community

Strong presence in the VO development

- 45 IVOA standards
  - 17 have at least one editor from France
  - 27 have at least one French author
- Participation in standards: CDS/ObAS, OP, Grenoble, Montpellier, Toulouse
- Tools (Aladin, Cassis)
- Validation tools (OP)

A community of VO users/implementers

- Interest and usage in all the labs which manage data services
- Participation in the last annual meeting: nearly all the places where there is an astronomy lab

  Besançon, Bordeaux, Grenoble, Marseille, Montpellier, Nice, Paris, Paris-Sud, Strasbourg, Toulouse

The first VO training: 11-13 Oct. 2004

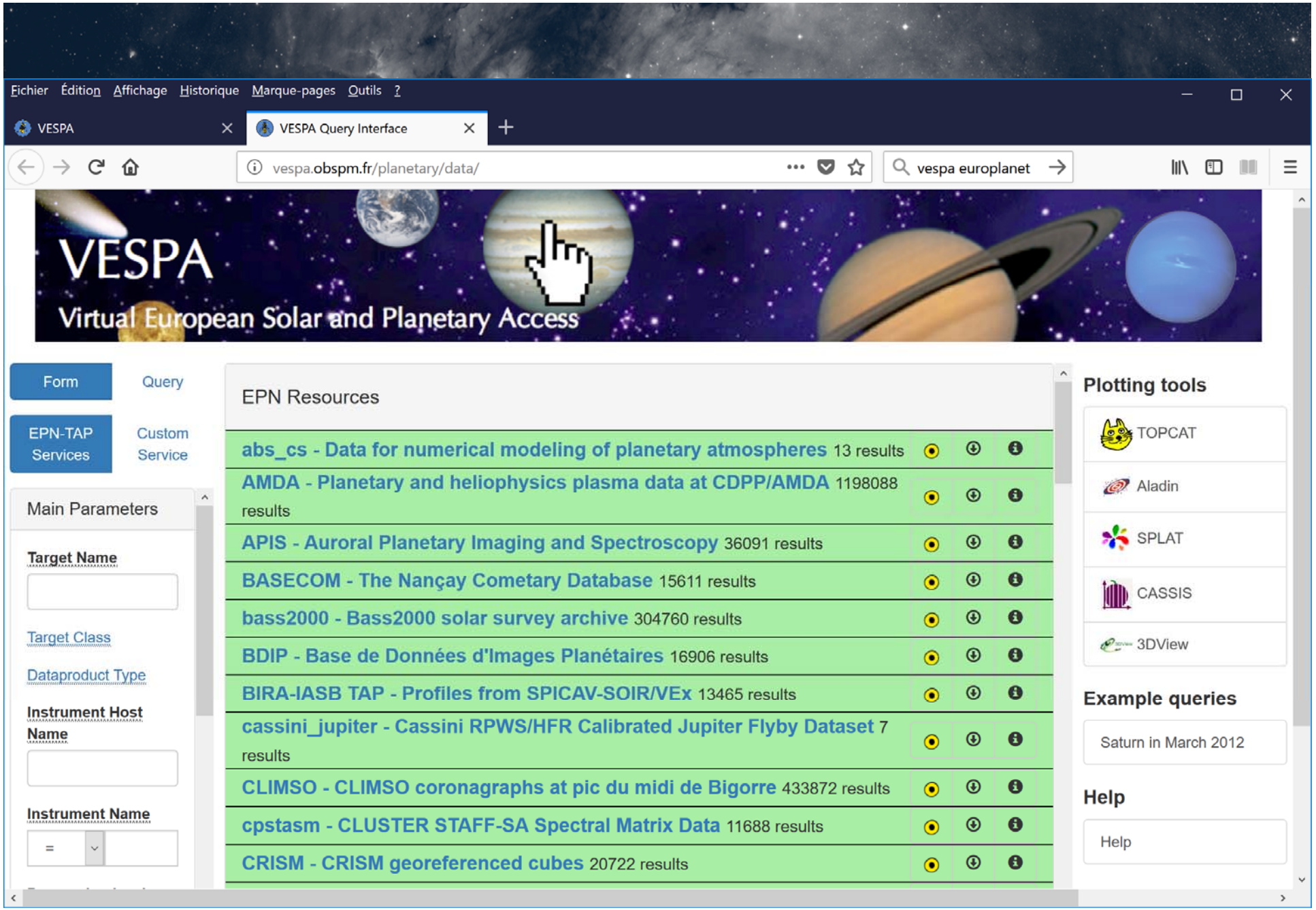
- *Lundi 11 octobre, après-midi*
  - Présentation Générale de l'IVOA (FG)
  - Architecture du VO (SD/TB)
  - VOTable : définition et outils (FO)
  - TP sur VOTable : transformation d'une table TSV en VOTable avec différents outils - Sujet et exemples en ligne ("ConVOT", "SAVOT", PERL...- TB)
- *Mardi 12 octobre, matin*
  - Expérience acquise en physique des plasmas (C. Harvey)
  - Application de VOTable aux données solaires (MS)
  - UCD (seulement ucd1+) (SD)
  - TP sur les UCD : assignation d'UCD à une table, utilisation dans les filtres Aladin (SD)
- *Mardi 12 octobre, après-midi*
  - DAL : SIA, SSA, STC...(FB)
  - Registry (PF)
  - TP : Description d'un spectre ou image / SSA, SIA - Sujet et exemples en lignes - (FB + PF)
    Inscription de cette resource dans un registry - Sujet : cf. fin de la présentation Registry - (PF)
- *Mercredi 13 octobre, matin*
  - Web Services (AS)
  - Démonstration AVO, janvier 2004: les standards en action (MA)
  - TP : Web Services, cotés client et serveur - Sujet et exemples en ligne (AS)
- *Mercredi 13 octobre, après-midi*
  - Questions diverses des utilisateurs, étude de leurs problèmes particuliers,...

Interdisciplinary impact

- Leadership in European projects in support to VO (project or Work Package level)
- ASTERICS (2015-2019): large facilities in astronomy and astroparticle physics – Multi-messager astronomy – CTA, KM3Net, EGO/VIRGO …EST
- ASTERICS – ESCAPE (2019-2023): + EST

Interdisciplinary impact

- French leadership/key role at the European and international level on disciplinary interoperability initiatives
  - EuroPlaNet/VESPA
  - Virtual Atomic and Molecular Data Centre
  - Space Plasma Physics was already well organised
- Reuse/customisation of VO standards and tools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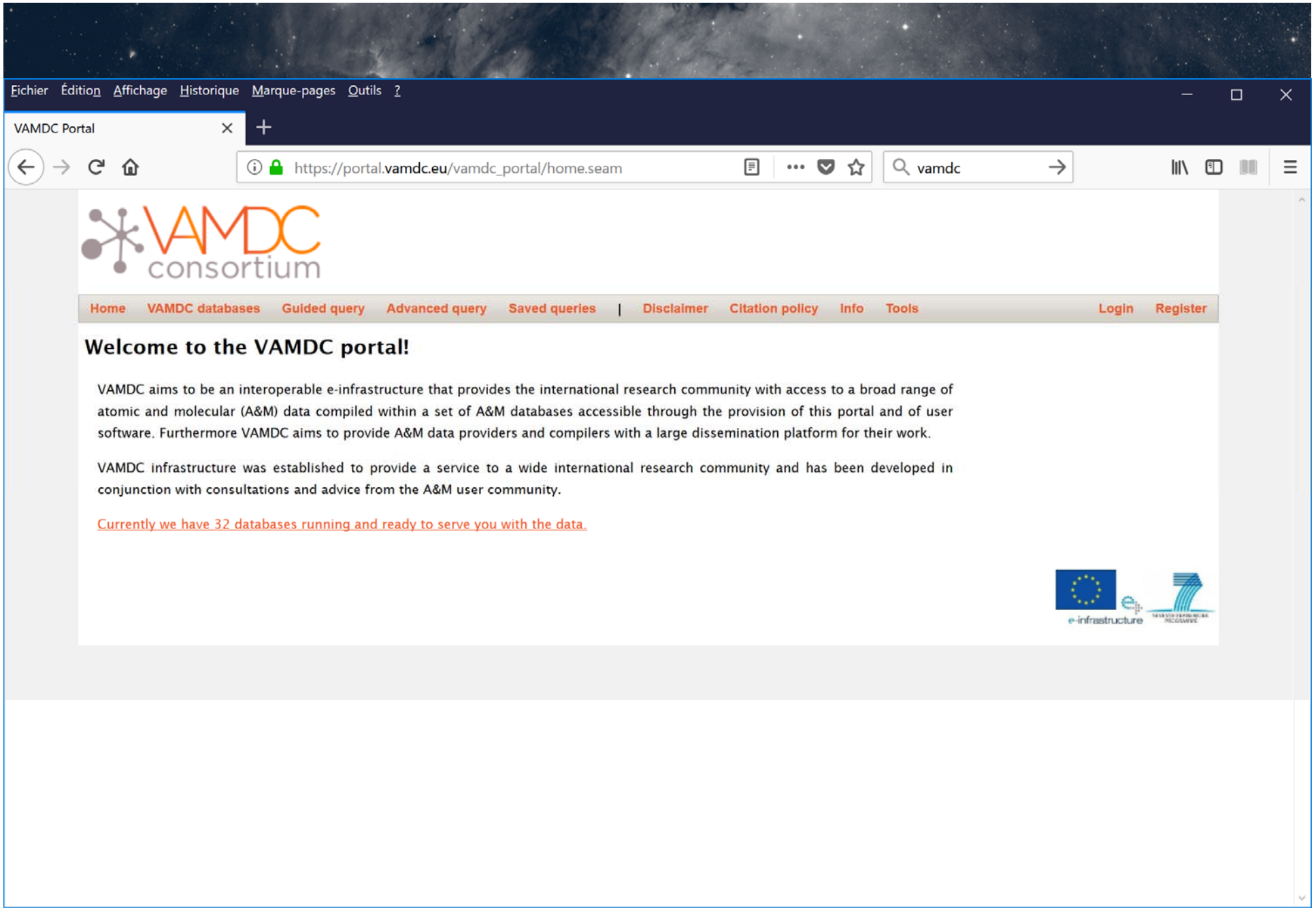
VESPA
VESPA Query Interface
vespa.obspm.fr/planetary/data/
vespa europlanet
VESPA
Virtual European Solar and Planetary Access
Form
Query
EPN-TAP Services
Custom Service
Main Parameters
Target Name
Target Class
Dataproduct Type
Instrument Host Name
Instrument Name
=
EPN Resources
abs_cs - Data for numerical modeling of planetary atmospheres 13 results
AMDA - Planetary and heliophysics plasma data at CDPP/AMDA 1198088 results
APIS - Auroral Planetary Imaging and Spectroscopy 36091 results
BASECOM - The Nançay Cometary Database 15611 results
bass2000 - Bass2000 solar survey archive 304760 results
BDIP - Base de Données d'Images Planétaires 16906 results
BIRA-IASB TAP - Profiles from SPICAV-SOIR/VEx 13465 results
cassini_jupiter - Cassini RPWS/HFR Calibrated Jupiter Flyby Dataset 7 results
CLIMSO - CLIMSO coronagraphs at pic du midi de Bigorre 433872 results
cpstasm - CLUSTER STAFF-SA Spectral Matrix Data 11688 results
CRISM - CRISM georeferenced cubes 20722 results
Plotting tools
TOPCAT
Aladin
SPLAT
CASSIS
3DView
Example queries
Saturn in March 2012
Help
Help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VAMDC Portal
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Welcome to the VAMDC portal!
VAMDC aims to be an interoperable e-infrastructure that provides the international research community with access to a broad range of atomic and molecular (A&M) data compiled within a set of A&M databases accessible through the provision of this portal and of user software. Furthermore VAMDC aims to provide A&M data providers and compilers with a large dissemination platform for their work.
VAMDC infrastructure was established to provide a service to a wide international research community and has been developed in conjunction with consultations and advice from the A&M user community.
Currently we have 32 databases running and ready to serve you with the data.
e-infrastructure

Conclusion

- Focused support to travel can be a powerful tool!
- Dissemination of knowledge and good practice is essential for VO adoption by data providers
- People participate in the VO and ASOV because it is their own interest
- They bring their requirements and expertise to the IVOA
- They implement the VO standards and use the tools to improve their services
- VO-enabling services and tools provides better exposure and usage