SPASE Update for Obs. Paris and Nançay

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Proposed SMWG content update

- Initial statement:
  Outdated and missing resources in SMWG tree.

- Update OBSPM and NANCAY, to include several observatories and instruments.

- Update of Persons
  => what to do with Observatory directors?

- Update of Repositories (added PADC)

Observatory

- Tentative definition of Observatory:
  - a observation facility bearing one or several instruments (e.g., a spacecraft, a radio array…)
  - an observatory can be defined by its location
  - an observatory is composed of one or collecting device(s) and one or several sensor(s).

- Example of Nançay:
  - Is Nançay an observatory? It is a set of radio telescopes, some of them being fully independent to the others. It is rather an observatory group.
  - The Nançay Radio Heliograph (NRH), the Nançay Decameter Array (NDA), the Nançay Radio Telescope (NRT), etc., are radio telescopes, with different locations (center of phase for array), so they are "observatories".

- Special case for LOFAR
  - LOFAR FR606 (French Low Frequeny Array station): LBA (Low Band Array) and HBA (High Band Array) have different center of phase, and their measure independently => 2 telescopes.
  - Same with NenuFAR (New Extension in Nançay Upgrading LOFAR), which can be used with LOFAR or independently.
  - LOFAR is also a EU wide telescope, with international station selected by observation program.

Updates in SMWG/Observatory

- spase://SMWG/Observatory/ObsParis
  spase://SMWG/Observatory/ObsParis/Heliograph
    PriorID: spase://SMWG/Observatory/OBSPM
  spase://SMWG/Observatory/ObsParis/SID
  spase://SMWG/Observatory/ObsParis/SpectroHeliograph
    PriorID: spase://SMWG/Observatory/Meudon

- spase://SMWG/Observatory/ObsNancay
    PriorID: spase://SMWG/Observatory/NANCAY
  spase://SMWG/Observatory/ObsNancay/FR606
  spase://SMWG/Observatory/ObsNancay/FR606/LBA
  spase://SMWG/Observatory/ObsNancay/FR606/HBA
  spase://SMWG/Observatory/ObsNancay/NDA
  spase://SMWG/Observatory/ObsNancay/NRH
  spase://SMWG/Observatory/ObsNancay/NRT
  spase://SMWG/Observatory/ObsNancay/NenuFAR

- NB: FR606/* link to ObsNancay and LOFAR for observatory groups.

Updates in SMWG/Instrument

- spase://SMWG/Instrument/ObsParis/Heliograph
    PriorID: spase://SMWG/Observatory/OBSPM/OBSPM
  spase://SMWG/Instrument/ObsParis/SID
  spase://SMWG/Instrument/ObsParis/SpectroHeliograph
    PriorID: spase://SMWG/Observatory/Meudon/Spectroheliograph

- spase://SMWG/Instrument/ObsNancay/FR606/LBA
  spase://SMWG/Instrument/ObsNancay/FR606/HBA
  spase://SMWG/Instrument/ObsNancay/NDA/JunoN
  spase://SMWG/Instrument/ObsNancay/NDA/NewRoutine
  spase://SMWG/Instrument/ObsNancay/NDA/Routine
  spase://SMWG/Instrument/ObsNancay/NRH
    PriorID: spase://SMWG/Instrument/NANCAY/Radioheliograph
  spase://SMWG/Instrument/ObsNancay/NenuFAR

Updates in SMWG/Repository

- spase://SMWG/Repository/PADC
  spase://SMWG/Repository/PADC/APIS
  spase://SMWG/Repository/PADC/BASS2000
  spase://SMWG/Repository/PADC/HELIO_HFC
  spase://SMWG/Repository/PADC/MASER
  ~~spase://SMWG/Repository/Meudon~~

Update in GBO

- Only preliminary.
  Using the SPASE resource XML builder

- spase://GBO/NumericalData/ObsNancay/NDA/Routine/Jupiter/PT1S
  Several access methods described:
  - HTTP listing of CDF files,
  - HTTP listing of RT1 (raw binary) files
  - EPN-TAP VO Access
  - Das2 server interface
  => API adding name ?

Notes on AccessInformation

- How to tell what API is used?
  HAPI, Das2, EPN-TAP, HTTP…

EPN-TAP Example

```
<AccessInformation>
 <RepositoryID>spase://Repository/PADC/MASER/Nancay</RepositoryID>
 <Availability>Online</Availability>
 <AccessRights>Open</AccessRights>
 <AccessURL>
  <Name>EPN-TAP VO access</Name>
  <URL>http://vogate.obs-nancay.fr/tap</URL>
  <Style>WebService</Style>
  <ProductKey>nda.epn_core</ProductKey>
  <Description>TAP interface to the NDA data collection.</Description>
 </AccessURL>
 <Format>VOTable</Format>
 <DataExtent>
  <Quantity>45</Quantity>
  <Units>MB</Units>
  <Per>P1D</Per>
 </DataExtent>
</AccessInformation>
```

Notes on AccessInformation

Das2 Example

```xml
<AccessInformation>
 <RepositoryID>spase://Repository/PADC/MASER/Nancay</RepositoryID>
 <Availability>Online</Availability>
 <AccessRights>Open</AccessRights>
 <AccessURL>
  <Name>Das2 server interface</Name>
  <URL>https://das2server.obs-nancay.fr/das2/server</URL>
  <Style>WebService</Style>
  <ProductKey>Nancay/NDA/Routine/routine_jup_lh</ProductKey>
  <Description>NDA Routine Jupiter LH polarized das2stream</Description>
 </AccessURL>
 <AccessURL>
  <Name>Das2 server interface</Name>
  <URL>https://das2server.obs-nancay.fr/das2/server</URL>
  <Style>WebService</Style>
  <ProductKey>Nancay/NDA/Routine/routine_jup_rh</ProductKey>
  <Description>NDA Routine Jupiter LH polarized das2stream</Description>
 </AccessURL>
 <AccessURL>
  <Name>Das2 server interface</Name>
  <URL>https://das2server.obs-nancay.fr/das2/server</URL>
  <Style>WebService</Style>
  <ProductKey>Nancay/NDA/Routine/routine_jup_dp</ProductKey>
  <Description>NDA Routine Jupiter degree of circular polarization das2stream</Description>
 </AccessURL>
 <Format>Binary</Format>
 <DataExtent>
  <Quantity>22</Quantity>
  <Units>MB</Units>
  <Per>P1D</Per>
 </DataExtent>
</AccessInformation>
```

Upcoming data products Radio Emission Catalogues

- Catalogues
  - Jupiter or Solar
  - from publication, or built by the Obs. Paris.

- Format:
  - HPEventList format (VOTable flavor preferred)
  - how to represent coverage region in time-frequency domain (polygon, chaincode, multi-order-coverage…)

- Not looked yet how to pu it into SPASE

Summary

- Overall looks good

- Still need confirmation from PADC, and Nançay teams before Pull Request.

- Still work to be done on DisplayData and NumericalData

- Process:
  use Github: 👍
  From master or draft? (draft branch doesn't seem complete, at least for SMWG)