

Exploring & Visualizing SOT Data

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Outline

- Exploring
 - Browsing, discovering...
- Visualizing
 - Render, display (see Berger/SSW talk)
- Integration with VSO, CoSEC

Exploring SOT Observations

- **Today** - Anticipated observations based on current plan
- **Recent** - Observations as they are received
- **Popular** - Most downloaded observations
- **Recommended** by SOT Team



The screenshot shows a web browser window with the URL <http://www.lmsal.com/~hurlburt/SolarB/DataCenter/Today/Today.html>. The page features a navigation menu with links for Home, Today, Recent, Popular, Recommended, and Search. A large banner at the top reads "SOT/XRT Currently Planned Observations" over a solar image. Below the banner, a text block states: "Here are observations that are scheduled to run in the next 24 hours. The results may take a few days to appear in our system." Two observation entries are listed, each with a small thumbnail image of the SOT instrument and a list of details:

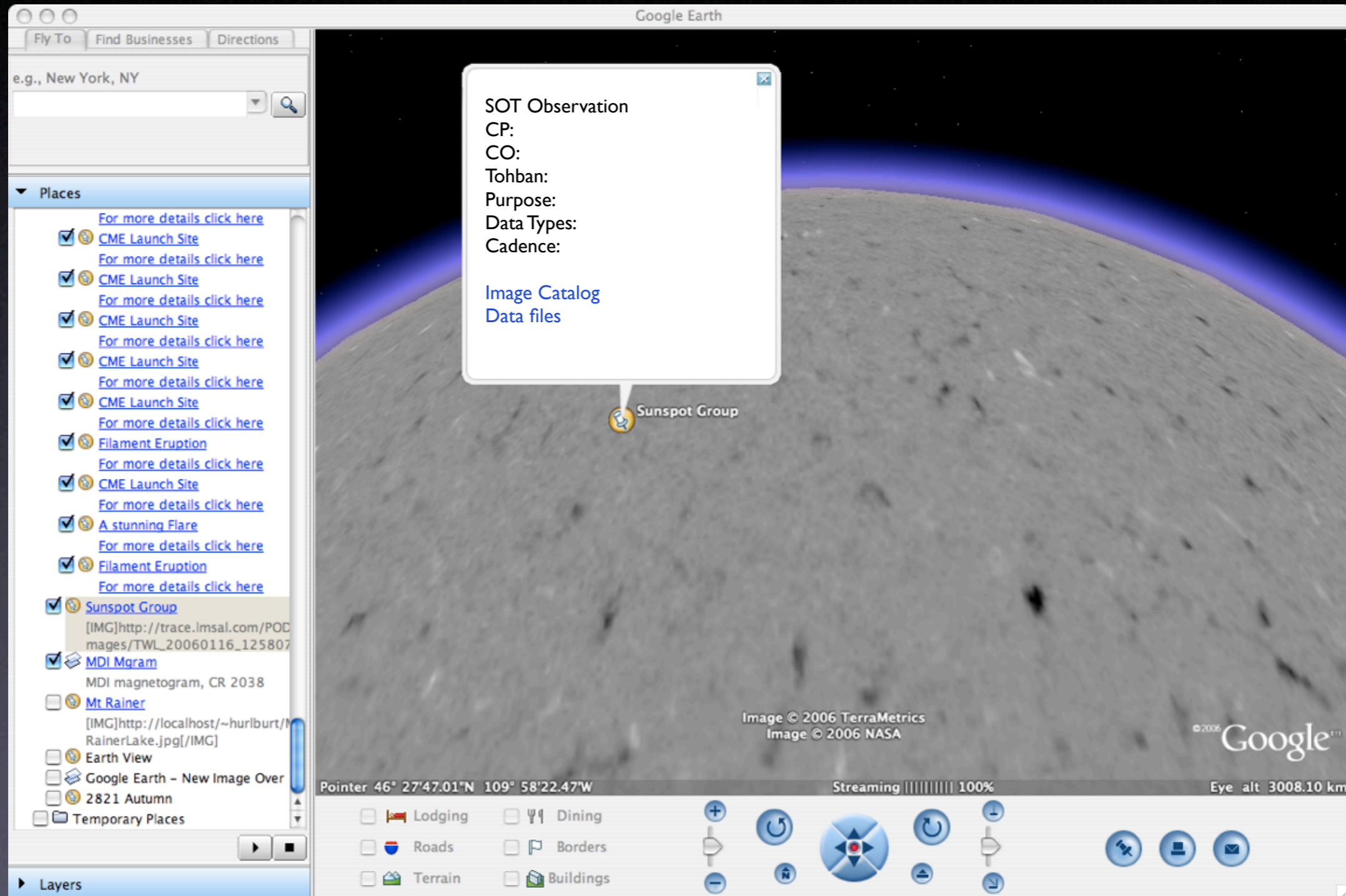
- Mercury Transit**
Tuesday, April 11, 2006
Goal: Alignment, Atmospheric structure
Target: Mercury
Å
[Listen...](#)
- 3D Magnetic and velocity structures**
Tuesday, April 11, 2006
Goal: 3D Å magnetic and velocity structures
Target: Active Region (Photo/chromo)
Observables:
SP Vector Magnetograms
FOV: 80x80
Mode: Fast Mapping
Cadence: 15 min

SOT Events

- Based on IVOA VOEvents schema
- Automated notification similar to RSS, etc.
- Coordination with groundbase & other space missions
- Implementation being pursued at MSSL
- Common framework for all Solar B?

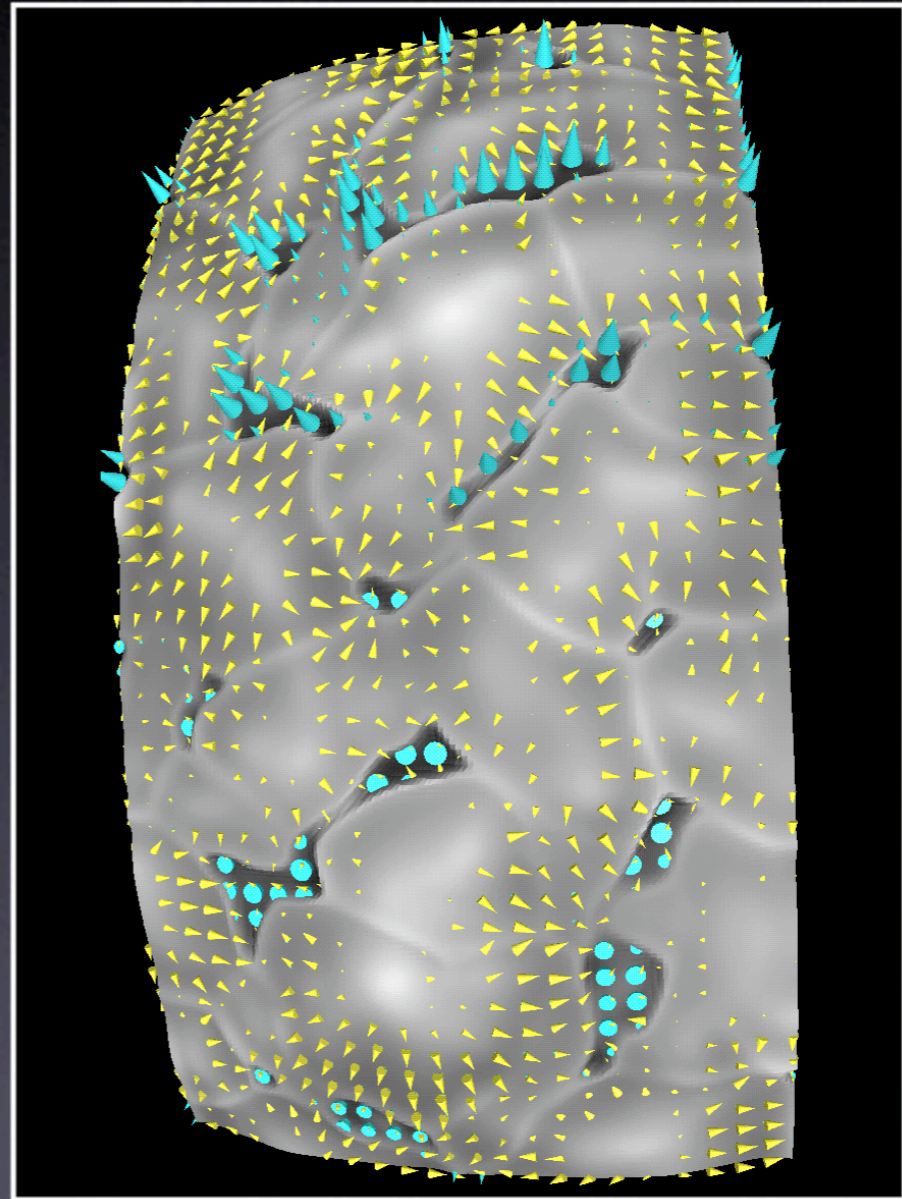
```
<?xml version="1.0" encoding="UTF-8" ?>
<VOEvent id="http://trace.lmsal.com/VOEvents/VOEvent_2006-02-09T09.21.38.299Z.xml" version="1
i.ivoa.net/xml/VOEvent/v1.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaL
voa.net/internal/IVOA/IvoaVOEvent/VOEvent-v1.0.xsd" xmlns:lmsal="http://fpp.lmsal.com/lmsal">
  <Who>
    <PublisherID>http://fpp.lmsal.com</PublisherID>
    <Date>Wed, 12 Apr 2006 15:58:19 PDT </Date>
    <lmsal:Instrument>FPP</lmsal:Instrument>
    <lmsal:Tohbans>TBD</lmsal:Tohbans>
    <lmsal:ChiefPlanner>T. Shimizu</lmsal:ChiefPlanner>
    <lmsal:ChiefObserver>Ted Tarbell</lmsal:ChiefObserver>
    <Reference uri="http://fpp.lmsal.com" />
  </Who>
  <Why>
    <Concept>SP IQUV 4D array</Concept>
    <Concept>
      <lmsal:Goal>SP IQUV 4D array</lmsal:Goal>
      <lmsal:Purpose>SP IQUV 4D array</lmsal:Purpose>
    </Concept>
  </Why>
  <What>
    <lmsal:NOAA_NUM>101010</lmsal:NOAA_NUM>
    <lmsal:JOP>SP IQUV 4D array</lmsal:JOP>
    <lmsal:Target>SP IQUV 4D array</lmsal:Target>
    <Group name="keywords">
      <Reference uri="http://trace.lmsal.com/junk.mov" type="url" />
      <Param name="OBS_TYPE" value="SP IQUV 4D array" />
    </Group>
  </What>
  <WhereWhen>
    <ObservationLocation>
      <crd:AstroCoords coord_system_id="SolarB_HGC_UTC">
        <crd:Time>
          <crd:TimeInterval>
            06/02/09, 08:20:22.275 06/02/09, 09:21:38.299
          </crd:TimeInterval>
        </crd:Time>
        <crd:Position2D>0 0</crd:Position2D>
        <crd:SpatialRegion>
          <crd:Value2>4.48000 40.9600</crd:Value2>
          <crd:Value2>4.48000 40.9600</crd:Value2>
          <crd:Region>Box</crd:Region>
        </crd:SpatialRegion>
      </crd:AstroCoords>
    </ObservationLocation>
  </WhereWhen>
  <Citations>
  </Citations>
</VOEvent>
```

Google Earth Interface



Vector Field Rendering

- IDL routines to create 3D VRML files (in SSW)
- Browser plugins to view files
- Developing simple stereo-enabled viewer



Heliophysics Integration

★ VSO integration

- Catalog export
- Delivery Services

★ CoSEC Services

- Catalog queries
- Image extraction
- Calibration tools
- Doppler & Magnetogram services

