

Review: Mission Planning Track

small statistics:

19 presentations, 21 planned;
(min. 40-50 attendants)

Very interesting presentations about three different aspects:

- Mission Planning for satellite missions (mainly earth observation missions)
- Mission Planning for the International Space Station (ISS)
- Mathematical methods and software tools for mission planning purposes

Mission planning for satellite missions

- Concepts about on-going missions (e.g. ERS1&2, MOMS-2P, ISO, ROSAT)
- Concepts about future missions (e.g. CLUSTER, XMM, ENVISAT, CASSINI)

Trends:

- ⇒ Flexible concepts (different concepts have been presented (centralized vs. de-centralized); the discussion must go on)
- ⇒ Concepts adaptable to other missions (transfer from recent or on-going missions to future missions)
- ⇒ Reuse and exchange of mission planning system components (at the moment each control center uses its own mission planning system)

Mission Planning for the International Space Station (ISS)

- Requirements modeling technique (by using implicit /explicit resources);
- ISS planning concept
- InterNet/WWW-based access to mission data bases

Trends:

⇒ Concepts as well as s/w should be verified during ISS-precursor missions

Mathematical methods and software tools

- Mission analysis software
- Generic Mission Planning software (e.g. orbital analysis, requirements generation, procedure management)
- Scheduling methods and software (goal: optimized timelines)

Trends:

⇒ Reusable tools (= for general purpose)

⇒ Flexible tools (= easy to modify)

⇒ Intuitive to use

⇒ Modular system (library with small dedicated “functions”)

⇒ Standardized tools and interfaces (exchangeable between different “users”)

⇒ Use of COTS tools (especially for GUI or other user I/F's)

Highlights

- New Mission Planning concept for the ISS: continuous planning instead of incremental planning (see paper 3.9)
- New planning process for (scientific) missions: Market-based resource distribution to managing (science) return (see paper 3.14)