

# IGS Wuhan Workshop Recommendation Template

**Name of Working Group and Chair:** Space Vehicle Orbit Dynamics, Marek Ziebart

**Rapporteur:** *Rolf Dach, Tim Springer*

## **Session Highlights:**

- With 6 oral and 13 posters one of the most successful sessions; all contributions have been of a high quality.
- Many papers on different approaches for using apriori models for SRP modelling that did show a clear benefit for this approach.
- For the BeiDou satellites the disclosure of the satellite properties was announced.
- It was also an option presented how proprietary detailed satellite design models can be represented in a way that a satellite force model can be published.

## **Progress on Paris Workshop Recommendations:**

Recommendations from the IGS Paris Workshop:

- Draconitic effects in network solutions are significant and the problem needs to be solved. These effects appear similar in all AC solutions. We need to put thought into the origins of this problem.
- ACs should start considering and discussing their strategies for Repro3 leading into ITRF2020

As the presentations have shown a lot of research work has been done in this field by several groups. So far there is no “golden break through” with a solution that completely takes all draconitic signals out in repro3. For a better interpretation of the repro3 results it was decided at the splinter meeting to compile a detailed documentation of the orbit modelling by each AC.

## **Recommendations:**

1. Regarding the strong influence of orbit modeling on IGS products the working group for “Space Vehicle Orbit Dynamics” needs to become active again. An updated list of members has been established as a first step.
2. The current orbit modelling in the individual AC solutions has to be well documented before the repro3 activity starts (all ACs are asked even if they do not plan to participate in the repro3 activity).
3. The working group takes the responsibility to define and introduce a format for documenting the attitude used for the GNSS satellites before repro3.
4. Promising orbit models shall be exchanged and tested among the members of the working group/ACs. The models shall be provided in a form that groups with less experience in orbit modelling can implement them.

**Does this WG actively plan to transition its work to multi-GNSS? If yes, when?**  
*It is if it becomes active again.*

**What impediments may prevent this WG from transitioning to multi-GNSS?**  
*... continue sleeping*

## Updating membership:

- All ACs:
  - Michael Moore <michael.moore@ga.gov.au>  
Geoscience Australia (ACC, Australia)
  - Mohammad Ali Goudarzi <mohammadali.goudarzi@canada.ca>  
Natural Resources Canada (EMR, Canada)
  - Qile Zhao <zhaopl@whu.edu.cn>  
Wuhan University (WHU, China)
  - Jan Dousa <jan.dousa@pecny.cz>  
Geodetic Observatory Pecny (GOP, Czech Republic)
  - Flavien Mercier <flavien.mercier@cnes.fr>  
Space geodesy team of the CNES (GRG, France)
  - Tim Springer <tim.springer@esa.int>  
Florian Dilssner <florian.dilssner@esa.int>  
European Space Agency/ESOC (ESA/ESOC, Germany)
  - Benjamin Männel <benjamin.maennel@gfz-potsdam.de>  
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GeoForschungsZentrum (GFZ, Germany)
  - Rolf Dach <rolf.dach@aiub.unibe.ch>  
Center for Orbit Determination in Europe (CODE, Switzerland)
  - Ant Sibthorpe <anthony.j.sibthorpe@jpl.nasa.gov>  
Jet Propulsion Laboratory (JPL, USA)
  - Thomas Herring <tah@mit.edu>  
Massachusetts Institute of Technology (MIT, USA)
  - Kevin Choi <kevin.choi@noaa.gov>  
NOAA/National Geodetic Survey (NGS, USA)
  - Peng Fang <pfang@ucsd.edu>  
Scripps Institution of Oceanography (SIO, USA)
  - Sharyl Byram <sharyl.byram@navy.mil>  
U.S. Naval Observatory (USNO, USA)
- Other experts:
  - Marek Ziebart (UCL, United Kingdom) <m.ziebart@ucl.ac.uk>
  - Markus Rothacher (ETHZ, Switzerland) <markus.rothacher@ethz.ch>
  - Urs Hugentobler (TUM, Germany) <urs.hugentobler@bv.tu-muenchen.de>
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