



**INTERNATIONAL
ASTRONAUTICAL
FEDERATION**

Space Traffic Management

The IAF initiative

Status of Working Group #3.3

Improvement of the collision avoidance process
Marlon Sorge

Special Session
Wednesday 27 October 2021

WG#3.3:

Large group

Divided in subgroups for
different sections of chapter

Included an active member
from Space Generation

Membership

Name	First name	Country
Berend	Nicolas	France
Cattani	Benedetta	Italy
Colombo	Camilla	Italy
Dasgupta	Upasana	Canada
Escobar	Diego	Spain
Fitz-Coy	Norman	USA
Harris	Toby	United Kingdom
Hejduk	Matthew	USA
Kerr	Emma	United Kingdom
Laporte	François	France
Michel	Martin	Germany
Perez	Cristina	Spain
Schepperd	Ryan	USA
Sorge	Marlon	USA
Tang	Mingliang	China
Yang	Xu	China

Co-chair

Co-chair

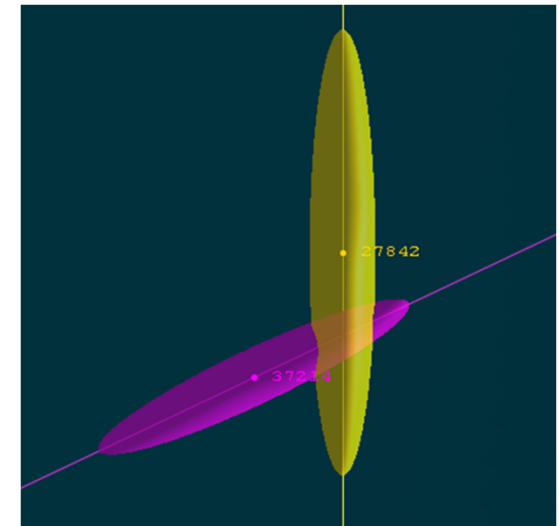
Connecting @ll Space People

Motivation

- Collision avoidance is usually the first item that comes to mind for STM
- Both protects operational satellites and prevents the generation of debris
- Collision avoidance is becoming increasingly complex as space operations change
 - Large constellations
 - More operators
 - New operations (on-orbit servicing, rendezvous and proximity operations, ...)
 - More, more diverse and different tracking capabilities

Where We Are Now

- Background
 - Overview of collision avoidance
 - How does COLA differ by the objects involved
 - Terminology sent to WG1
- Technical Description of COLA
 - Summarize current processes for conducting collision avoidance
 - CA screening
 - Conjunction assessment and risk analysis
 - Mitigation planning
 - Existing capability gaps and limitations
 - Ephemeris quality and distribution
 - Standards and protocols
 - Inexperienced operators
 - Accuracy and precision of orbital data



Where We Should Be Going

- Future Outlook: What are new developments
 - Coordination (STM data and operators)
 - Data sharing
 - Automation
 - Rules
 - Improved capabilities
 - Data fusion
 - Tracking more of the population
- Recommendations
 - Guidelines
 - Data improvements
 - Communication
 - More complete COLA

