


ÆTHER

## ● OKAPI:Aether

OKAPI:Aether provides comprehensive SSA-focused functionalities covering Space Traffic Management, Flight Dynamics, and in-depth data analysis and fusion.

OKAPI:Aether addresses operational needs, from close approach monitoring and maneuver execution to ephemerides screening and orbit determination, ensuring seamless support throughout LEOP, commissioning, and nominal operations.





From the initial Conjunction Data Message to the Time of Closest Approach, Aether provides detailed insights into event evolution and risk assessment. Drawing upon multiple data sources, including SSA authorities, user ephemerides, GNSS data, and ground or space-based observations, provides a comprehensive understanding of the situation.

This enables the minimization of unnecessary maneuvers, resulting in significant fuel savings, extended mission lifetime, and a reduction in operational workload.

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### Conjunction Details

TCA (UTC) 2024-07-29T08:22:48.270Z  
 Time since TCA 2T05:02:07  
 Probability of risk increase 8.0 %  
 Probability of being critical at TCA 10.0 %

[Risk Monitoring](#) [Collision Avoidance](#)

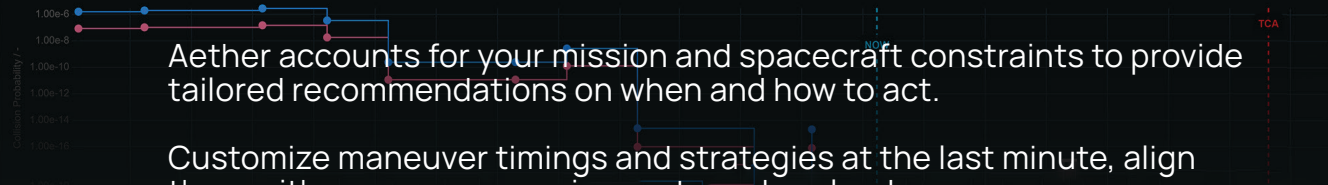
#### Conjunction Maneuvers Validated

Status	Creation date (UTC)	CAM ID	Maneuver start (UTC)	Maneuver strategy	$\Delta v$ / mm/s	$\Delta s_{ma}$ / km	Collision probability	Miss distance / km	
<span>🔴</span> <span>🟢</span>	2024-07-28T13:04:04.484Z	CAM-012 (undefined)	2024-07-28T20:35:41.172Z	Earliest maneuver strategy	-91.2	-0.2390	2.989e-8	36.1741	<a href="#">↓</a>
<span>⊙</span> <span>🟢</span>	2024-07-28T13:04:04.484Z	CAM-011 (undefined)	2024-07-29T07:32:42.968Z	Latest maneuver strategy	-89.7	-0.2361	1.357e-8	46.3942	<a href="#">↓</a>
<span>⊙</span> <span>🟢</span>	2024-07-27T12:53:01.958Z	CAM-010 (undefined)	2024-07-27T21:07:28.177Z	Earliest maneuver strategy	-102.7	-0.2602	7.922e-8	8.6771	<a href="#">↓</a>

[Collision Probability](#) [Total miss distance](#) [Mahalanobis Distance](#) [Radial miss distance](#)

Risk Trend

- SPACE\_TRACK
- CDM



Aether accounts for your mission and spacecraft constraints to provide tailored recommendations on when and how to act.

Customize maneuver timings and strategies at the last minute, align them with your power requirements and payload usage.

Even in situations without propulsion, mitigate conjunction risks using **differential drag maneuvers**.

# Maneuvers tailored to your needs



- ## Flight Dynamics Capabilities

Exploit multiple capabilities, including orbit determination, orbit propagation, and pass prediction. Perform station-keeping maneuvers to ensure the target semi-major axis and ground track are compliant with your mission design.

- Enable full automation and seamless integration into your existing processes by incorporating your ground systems with the OKAPI:Aether API.

A diagram showing the Earth from space, with several satellite orbits depicted as glowing lines. Two specific satellites are highlighted with blue dots and labels: 'EUTEL 7C' and 'COSMOS 917 DEB'. A yellow wireframe box is drawn around the Earth and the orbits. A red dot is positioned to the left of the main title.

## GEO Neighborhood Awareness

Our independent catalog is powered by a global operational optical network with comprehensive GEO belt coverage. This system enables a "neighborhood watch" for nearby objects that might pose a threat and provides conjunction detection and risk assessment for close approaches.

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## GEO Adaptability and Efficiency

We offer intensive tracking of customer satellites, enabling data fusion for orbit determination with applications such as maneuver calibration and anomaly detection.

We support critical phases such as the LEOP, from GTO to final GEO slot, and de-orbiting to the graveyard orbit.

Our maneuver optimization functionality leverages existing station keeping constraints for collision avoidance. This can either propose new risk-free station keeping maneuvers or modify existing ones to mitigate collision risks.

# OKAPI RBITS

Select a tailored package or contact us to discuss your specific needs. We offer options for varying levels of involvement, from full participation to mere critical event notifications, ensuring your mission's success.

For more info, visit [www.okapiorbits.space](http://www.okapiorbits.space) • Contact us at [contact@okapiorbits.com](mailto:contact@okapiorbits.com)  
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