

Session Program

May 5 – 9, 2025

9th IAA PLANETARY DEFENSE CONFERENCE 2025

Poster Session 6: Deflection / Disruption Modeling & Testing

STELLENBOSCH, CAPE TOWN, SOUTH AFRICA
Protea Hotel by Marriott® Stellenbosch

Mon, May 5

6:00 PM

Poster Session 6: Deflection / Disruption Modeling & Testing: Posters - Session 6: Deflection / Disruption Modeling & Testing Poster Session Location: STELLENBOSCH, CAPE TOWN, SOUTH AFRICA, Protea Hotel by Marriott® Stellenbosch	
Advancing Planetary Defense: Electromagnetic Forces for Non-Contact Asteroid Deflection	Speaker Anubhav Gupta
Modeling the influence of layering on impact-induced seismic waves in rubble-pile aggregates with GRAINS	Speaker Eric Frizzell
LOSSOL: Line of Sight Speed of Light Directed Energy Technologies for Planetary Defense	Speaker Mr Madhu Thangavelu
Collisional Spin-Up of Asteroids: Alternative Mechanisms of Binary Asteroid Formation Independent of YORP Effects	Speaker Po-Yen Liu
Optimizing Trajectories in Asteroid Defense Missions: Potential Gains from Eccentric Collision Approaches	Speaker Kin Thong Lee
Quantifying Uncertainties in Modeling Choices for Time-Sensitive Applications	Speaker Dr Wendy K. Caldwell
Probing heuristics for the kinetic disruption of asteroids	Speaker Kathryn Kumamoto
Momentum Enhancement of Rubble Pile Simulants at 2 and 5.5 km/s	Speaker James Walker
Analytic NEO Deflection Formula Update and Expansion	Speaker Robert Managan
The catastrophic disruption threshold of 50-100 m asteroids: laboratory experiments, numerical simulations, and application to the PDC2025 scenario	Speaker Ronald-Louis Ballouz

Asteroid Composition and Its Influence on Mitigation Strategies

Speaker
Oluwatosin Kolade

Probing Nuclear-Initiated Robust Disruption in Mesh-Based Simulations

Speaker
Mary Burkey

A Metric for Gravity Tractor Effectiveness

Speaker
Colby Merrill

On the Design Possibilities of a Non-Traditional Nuclear Device for Planetary Defense

Speaker
Russell TerBeek

A Safe and Effective Nuclear Deflection Device for Planetary Defense

Speaker
Bradley Salzbrenner

HOW ASTEROID COMPOSITION CHANGES THE EFFECTIVENESS OF NUCLEAR DEFLECTION AND DISRUPTION MISSIONS

Speaker
Thomas Onyango

Technologies for Asteroid Deflection: Strategies and Challenges

Speaker
Oluwatosin Kolade

Mitigating the near-earth object threat: Comparative analysis of deflection and explosion

Speaker
Mahima Gehlot

Hydrocode Simulations of Robust Asteroid Disruption via Hypervelocity Impacts

Speaker
Alexander Cohen

9:00 PM