

佐伯 孝尚, 澤田 弘崇, 矢野創, 岡本千里 (JSPEC/JAXA),
はやぶさ2プリプロジェクトチーム



- ・リモートセンシング観測（光学カメラ、赤外線分光計、LIDAR（距離測定）など）

⇒小惑星の特性調査

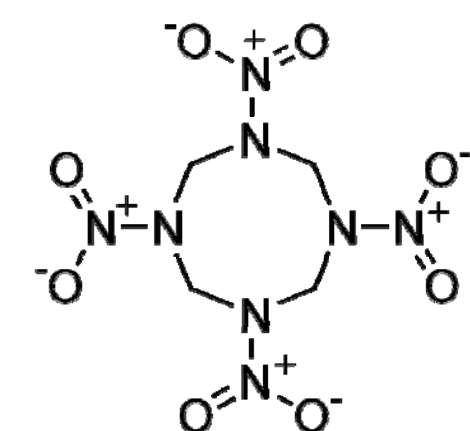
- ・小惑星の近接観測、小型ローバの投下、表面試料の採取

[illegible]A satellite with two large solar panel arrays is shown in orbit around a large, irregularly shaped asteroid. The background is the dark void of space with some distant stars visible.

- 小型の搭載型衝突機の採用(衝突速度2km/s, 質量2kg)

The figure consists of two parts. On the left is a schematic diagram of a metal wire (金属ライナ) with a central explosive core (爆薬) and a pyrotechnic layer (火薬). A green dot indicates the position of the pyrotechnic layer. On the right is a graph showing the cross-sectional area (mm²) of the metal wire over time (μs). The x-axis ranges from 0 to 500 μs, and the y-axis ranges from 0 to 1.0 mm². The graph shows five curves representing the cross-sectional area at different time intervals: 0 μs, 30 μs, 50 μs, 100 μs, and 500 μs. The area decreases as time increases, indicating the erosion of the metal wire.

- ◆ 機械的強度が高い
- ◆ 爆発性能が良い
- ◆ 化学的安定性が高い
- ◆ 衝撃・高温に対し鈍感

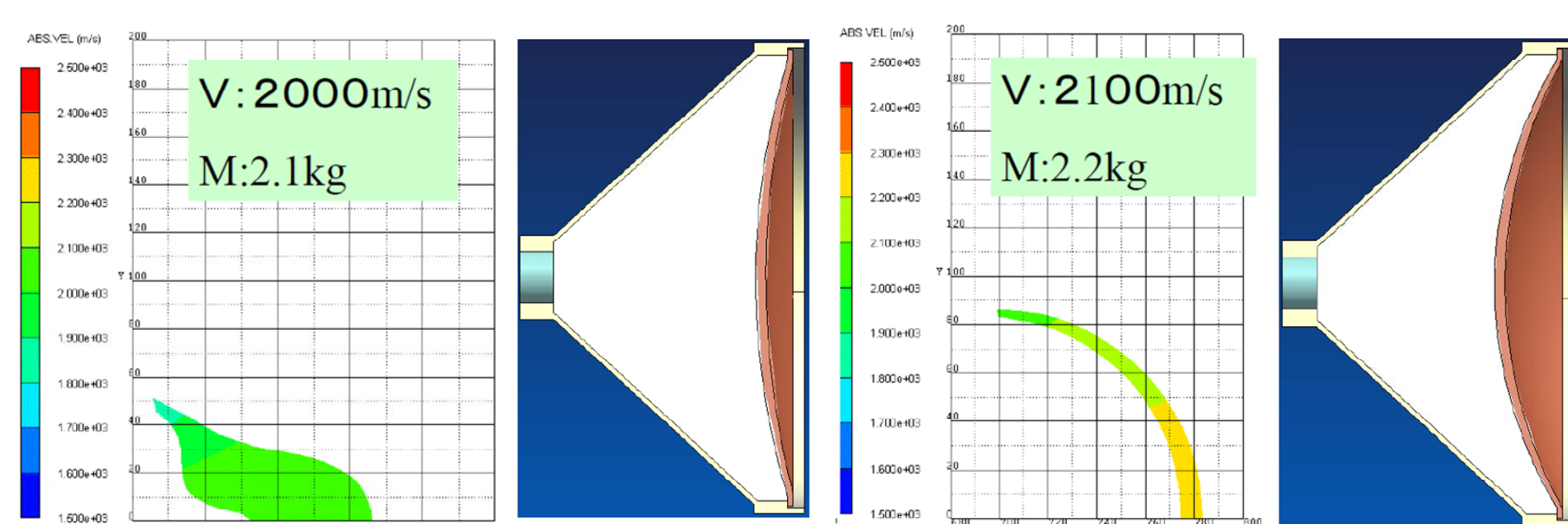


- 主爆薬
 - ◆ HMX系PBX
 - HMX割合 84%以上、爆速: 7600m/s以上
- 伝爆薬（ブースタ）
 - ◆ PBXN-5

＜小型試験体＞
ライナ(鋼)
ライナ質量:
36g (変形前)
28.1g(変形後)
ライナ直径:
50mm(変形前)
20mm(変形後)
ライナ速度: 2100m/s

クレータ
半径: 600mm
深さ: 110mm

中実タイプ



ブーサの周辺部にて起爆させた際のライナの回転

Figure 1: Analysis of the explosion debris (debris) from the explosion. The figure consists of three parts: (a) A scatter plot showing the distribution of debris fragments. The x-axis is labeled "1000 μs" and the y-axis is labeled "1000 μs". The plot shows a dense cluster of points in the center, with some points extending outwards. (b) A diagram showing the explosion point (爆発点) and the debris fragments (破片) flying outwards. The diagram includes a central point labeled "爆発点" and several lines radiating outwards, representing the flight paths of the debris. (c) A diagram showing the explosion point (爆発点) and the debris fragments (破片) flying outwards, with a focus on the debris fragments flying outwards from the explosion point. The diagram includes a central point labeled "爆発点" and several lines radiating outwards, representing the flight paths of the debris.

カメラ画角検討

画角		カメラからの距離[m]									
		250	500	1000	2000	5000	7500	10000	20000	50000	
水平	垂直	カメラ視野最大長[m]									
32.8	17.2	0.3	0.6	1.1	2.2	5.6	75.6	151.2	302.5	604.9	1512
34.8	25.5	0.4	0.8	1.6	3.3	8.2	113.1	226.3	452.6	905	2262
45.7	34	0.5	1.1	2.2	4.4	11.0	152.9	305.7	611.5	1222.9	3057
71.5	53.4	0.9	1.7	3.5	6.9	17.3	251.5	503.9	1007.9	2011.8	5029
170	90	1.3	2.6	5.2	10.3	25.9	419.1	838.1	1676.2	3352.4	8381

IKAROSで使用したレンズシリーズ
画角：大>>>>>>>>小

