StealthTransit

An Efficient, Rapidly Implementable Approach to Protecting Narrow- and Medium-Field Optical Observations from Satellite Constellation Impacts

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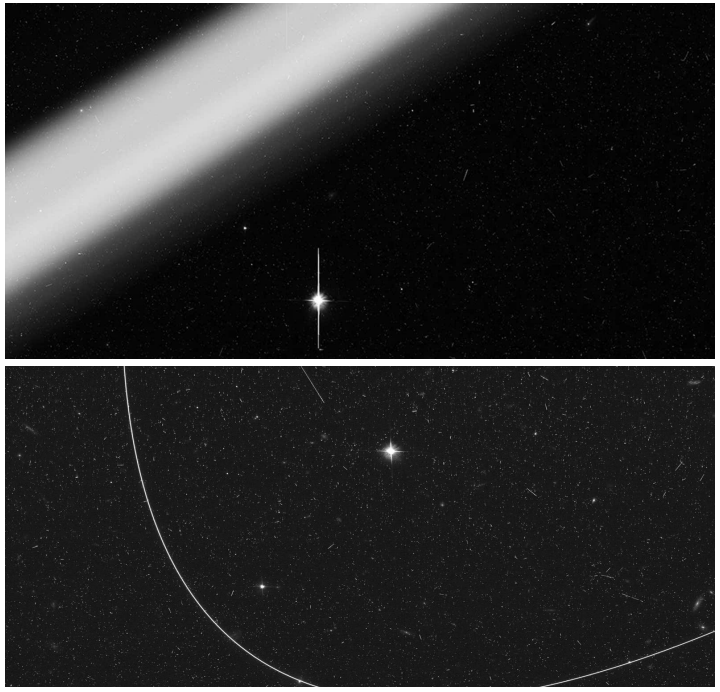
How It Works

StealthTransit

The Challenge

- LEO constellations → light streaks → data loss
- Growing impact on narrow-/medium-field and spectroscopic observations for ground based and space telescopes

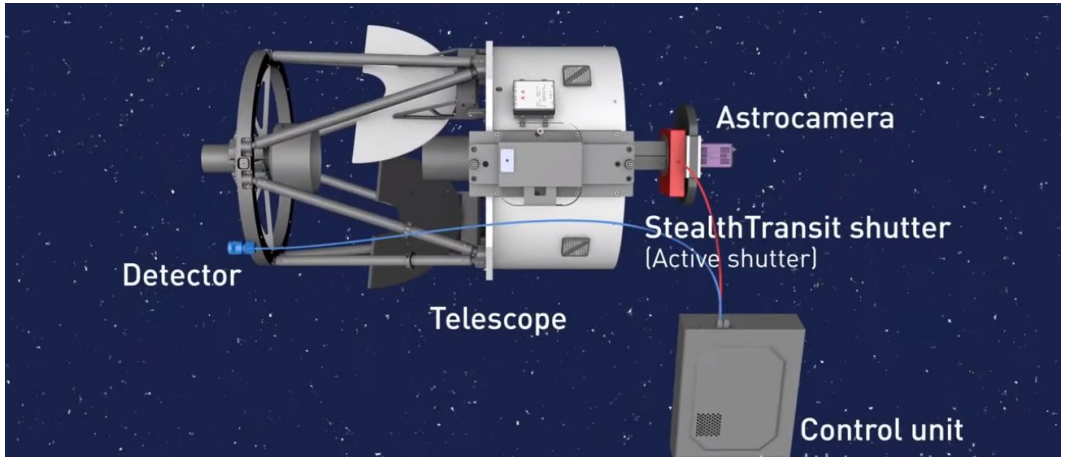
Examples of damage:



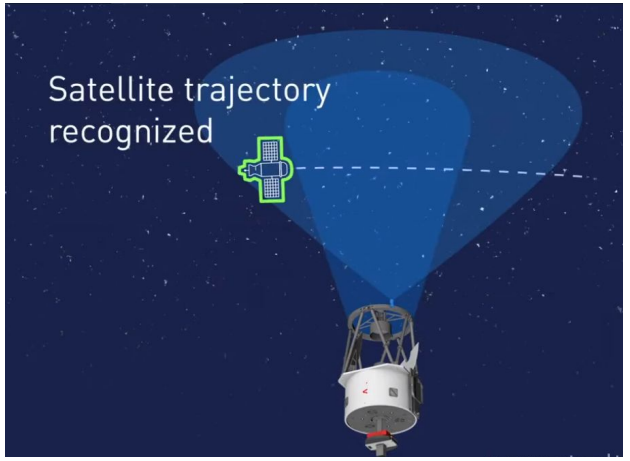
Satellite trail in a narrow FOV. Hubble Space Telescope. S.Kruk. Nature Astronomy. 2023

Our Solution: StealthTransit

1. Fast additional (active) shutter closes only during satellite passage
2. Zero exposure interruption — no extra noise, no exposure loss
3. Works independently of satellite operator — no hardware changes in orbit
4. Operates with real-time tracking from auxiliary detection telescope or a camera
5. Compatible with Teledyne Cosmos and Sophia, FLI, Andor, and similar instruments; suitable for ground based and space telescopes



StealthTransit setup



Operation principle

Why it is Better

Other Methods - Major Problems	StealthTransit - Solutions
1. Satellite change (light shades, etc.) - not always available, and operators are reluctant to implement it	1. Works with **any satellite** or space object, including space debris or airplanes
2. Post-processing - inevitable data loss	2. Prevents contamination before capture, **minimal data loss**
3. Observation planning using TLE - inaccurate time and sat position, not always applicable, inconvenient. Unpredicted sat brightness.	3. High-precision sat trajectory prediction in **real time**, automated operation. Sat brightness and threat level are predicted accurately.

Practical Advantages

- Proven, patent-protected system
- **Easily integrated** into most observatories
- **Scalable** design: from low-cost to high-end setups
- Buildable locally with our engineering guidance
- Suitable for spectroscopic observations

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Thank you!

Looking for Partners!

- We provide **methodical and technical support**
- Observatories can build their own version under our **IP Global umbrella**
- Goal: protect all optical observations from satellite interference

Contacts

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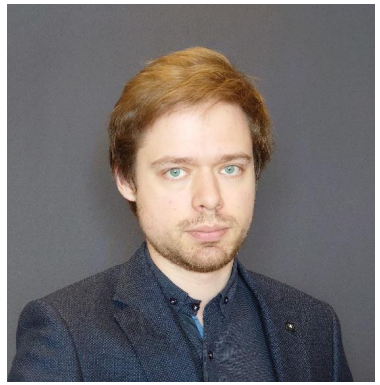

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