Areté

Wallace

Neuromorphic SDA Satellite Tracker

Wallace is a low-SWaP, expeditionary, neuromorphic SDA telescope that allows for rapid detection and tracking of satellites. Wallace leverages the capabilities of a traditional framing camera and a neuromorphic camera (for satellite detection and tracking). All components are non-ITAR and IP67, making Wallace both rugged and easily deployable.

Key Features

- Accurate satellite detection & tracking using a novel neuromorphic sensor
- Extremely high temporal resolution (~25 ms) & dynamic range (>120dB)
- Low-SWaP and low data footprint
- Self-calibrating, man-portable, and easily deployable

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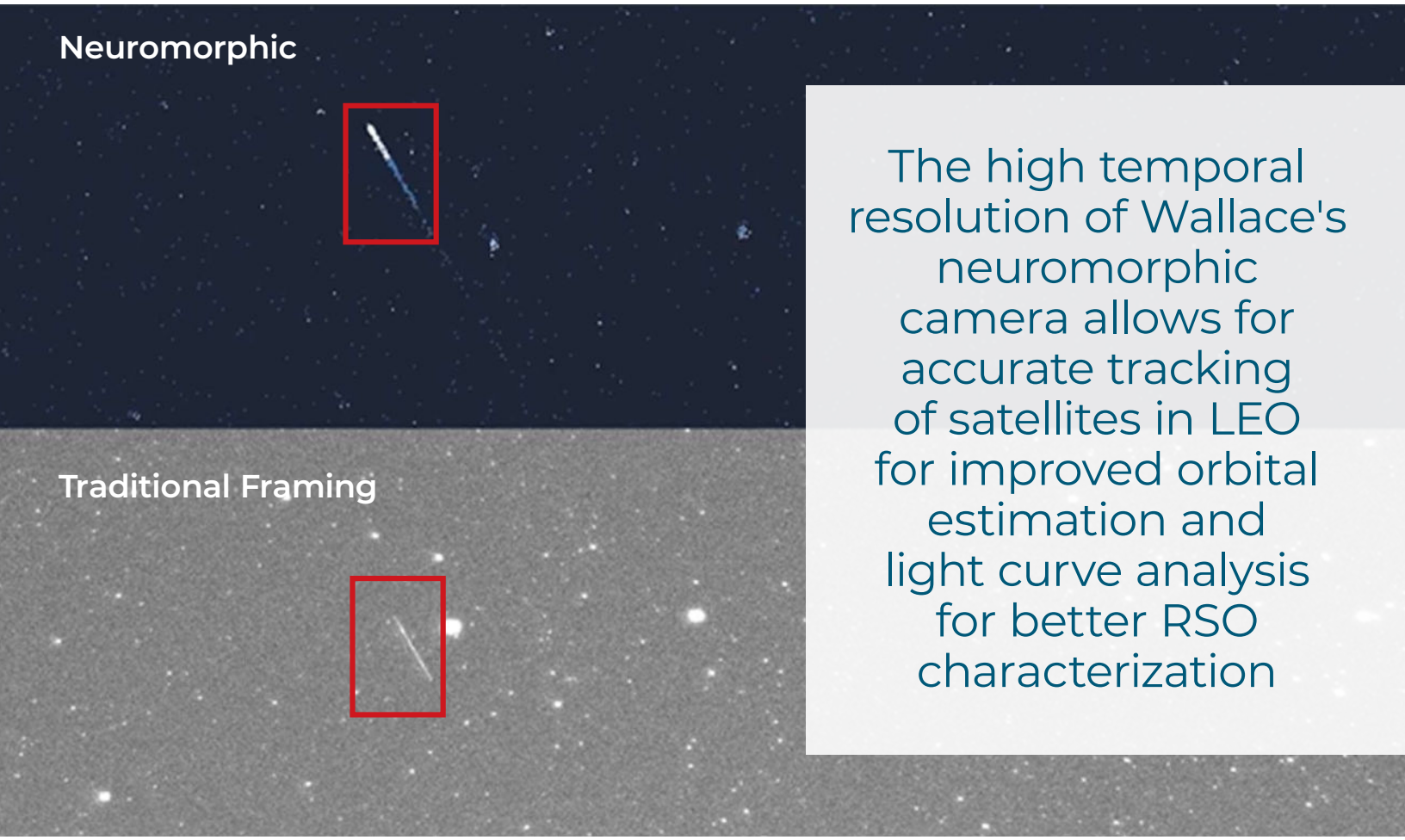
How Wallace Works

- Wallace consists of all IP67 components: a neuromorphic camera, a traditional framing camera, and a steerable mount that allows for rapid slewing
- After performing star calibration using the framing camera, Wallace will slew to a specified target and deliver high-speed, high-dynamic-range tracking of RSOs



The high temporal resolution of Wallace's neuromorphic camera allows for accurate tracking of satellites in LEO for improved orbital estimation and light curve analysis for better RSO characterization

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