NANOHMICS

A compact spectral imager for small platforms

Under a 2017-2019 NASA SBIR Phase II program, Nanohmics developed a prototype compact snapshot integral field spectral imager for the visible spectrum. After flying it on a quadcopter, we delivered the system to NASA for further testing. It leverages computational spectroscopy methods that rely on a unique micro-optical chip, resulting in a full spectral imaging camera that fits on a business card.

However, the camera uses an unproven computational spectroscopy method that cannot be recalibrated in the field, so we followed up the program with a 1-year flight on the exterior of the International Space Station in 2021-22 on the MISSE Flight Facility. In that flight, we showed that we were able to maintain the ground calibration through the rigors of launch and repeated significant thermal swings in low Earth orbit.

While the technology is not yet commercially available, it is rapidly maturing in TRL and is well postured to be considered for future flight opportunities as an auxiliary instrument.