

Press Release

X-ray Telescope Featuring Optics from Rigaku Innovative Technologies Europe (RITE) Launched into Orbit

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An X-ray telescope featuring multi-foil optics from Rigaku Innovative Technologies Europe s.r.o. (RITE) was successfully launched into orbit and is capable of monitoring a wide range of astrophysical and terrestrial phenomena.

June 30, 2017 – Auburn Hills, Michigan. Rigaku Innovative Technologies Europe ([RITE](#)) is pleased to announce that an X-ray telescope featuring Rigaku [X-ray multi-foil optics](#) was launched into Earth's orbit on Friday, June 23rd, 2017, using India's Polar Satellite Launch Vehicle (PSLV-C38). The vehicle was launched from the Satish Dhawan Space Center ([SDSC](#)) on Sriharikota, a barrier island in the Bay of Bengal, and carried 30 co-passenger satellites, comprised of 29 nanosatellites from 14 countries.

The X-ray multi-foil optics, combined with an Advacam detector in a 1D X-ray telescope, are onboard a Czech nanosatellite [VZLUSAT-1](#) with polar orbit. The newly deployed telescope features a wide-field optical system based on multi-foil optics for X-ray energies from 3 keV up to 30 keV.

The optics, developed by Rigaku Innovative Technologies Europe s.r.o. (RITE), a Czech subsidiary of [Rigaku Corporation](#), facilitate measurement of higher spectrum energies together with optical-electronic data compression. The payload presents a demonstration of the novel use of a miniaturized X-ray telescope in-orbit, and is the first use of Rigaku X-ray optics in space.

The technologies of RITE are developed to advance the field of X-ray optics. RITE has specialized capabilities in ray-tracing, designing, manufacturing and testing of multi-foil optics (MFO). The MFO are comprised of a soft X-ray and Extreme Ultraviolet (EUV) optics, which consists of two perpendicular sets of very thin reflecting mirrors, where photons are reflected at grazing angles, enabling various arrangements and geometries. RITE manufactures 1D and/or 2D MFO optics and offers custom designs that can be rapidly developed and manufactured.

About RITE

In 2008, Rigaku Innovative Technologies Europe s.r.o. (RITE) became part of the Rigaku Corporation. Originally a research & development facility, RITE now implements cutting edge technologies in the ray tracing, design, manufacturing and testing of "super smooth" X-ray optics for EUV, XUV and X-ray radiation. The technological combination of extremely smooth optical surfaces and system building techniques allows for metal replication technologies. The RITE optical group is comprised of the Czech Republic's leading researchers in the field of advanced X-ray optics, all of whom have developed various manufacturing technologies and optical innovations in the field of X-ray optics.

About Advacam

The Advacam group covers semiconductor sensor production, packaging, radiation camera production and development of new radiation imaging solutions.

Advacam s.r.o. is a technology spin-off company of Institute of Experimental and Applied Physics of Czech Technical University in Prague, Czech Republic (formerly known as Widepix s.r.o.). The company brings to the market results of more than 15 years of basic research and development of fully digital semiconductor radiation cameras (located in Prague, Czech Republic). Research and development focus is on custom solutions based on photon counting cameras for scientific and industrial customers

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