Experimental development of Ir/SiC mirror coatings for the Athena telescope

Following recent coating development of X-ray mirrors for Athena, Ir/SiC has been proposed as a candidate material combination for the mirror coatings. A SiC layer on top of the Ir layer will improve the reflectivity of the mirrors at low energies and is particularly relevant for reaching the effective area requirements at 1 keV. The X-ray reflective coatings for Athena are developed at DTU Space. We produce the coatings, and continuously evaluate their performance using a variety of measurement techniques. We present the latest experimental results on the Ir/SiC coatings and their compatibility with the industrialization processes involving the Silicon Pore Optics (SPO) technology adopted for the Athena mission.