Inventory of experimental and theoretical resources available for NanoSpace COST Action	
Country:	Germany
Name of Institution/Laboratory:	GSI Helmholtzzentrum für Schwerionenforschung, Materials Research
Contact information (name, e-mail):	Frieder Koch, fr.koch@gsi.de
Website:	https://www.gsi.de/work/forschung/appamml/materialforschung
Short description **(max 0.5 page)** of available techniques (experiment or theory): If appropriate, please include 1 picture/figure and caption highlighting resources.	We operate a beamline at the GSI heavy ion accelerator suited for the simulation of cosmic radiation, with a host of in situ and ex situ characterization techniques as well as nanofabrication. We offer - FTIR spectroscopy - Raman spectroscopy - Mass spectrometry - GeV SIMS/SNMS - X-ray diffraction - Scanning electron microscopy with EDX - Thermographic monitoring - Optical lithography - Etched ion track nanotechnology - Atomic layer deposition - Electrodeposition
Sample/target description (e.g. gas, clusters, solid,…):	Samples are typically films on IR transparent substrates, thin foils etc, depending a lot on the desired technique. We can operate some of the techniques at temperatures down to 20 K
How to access to experimental/computational resources (e.g. through collaboration, user facility proposal calls,….):	Beamtime at the heavy ion accelerator is granted through a proposal system. Offline techniques are available on a collaboration basis
References **(max 5)**:	T. Pino et al. A&A 623 A134 (2019) E. Dartois et al. A&A, 663 (2022) A25