

FUAP Facilities Spreadsheet

We provide below a spreadsheet of the critical facilities (the “Crown Jewels”) for the four science themes discussed in the FUAP Science Strategy document. We have not ranked the facilities within the table either between themes or within a single theme. We provide at the top of the table four **ranked** critical priorities that affect all four themes and go beyond a single facility, community or experiment. We believe this table represents the minimum necessary to deliver a healthy and competitive world-class research base for the UK “Far Universe” community.

Science Themes and critical priorities	Now (next 5 years)	Future (next 20 years)
Critical priorities	<ol style="list-style-type: none"> 1. Maintain healthy funding for theoretical research including simulations (access to HPC) and modeling. 2. Protect funding for people (students/PDRAs) to continue in the preparation and exploitation of data from facilities. 3. Leverage subscriptions to ESA/ESO (don't invest in things that duplicate these facilities and improve our exploitation and involvement in these key facilities). 4. Maintain technological capacity in UK groups by investing in small-to-medium size astronomy projects (allow people to be innovative). 	
Cosmology	<ul style="list-style-type: none"> • Wide-area weak lensing (WL) survey • Wide-area galaxy spectroscopic survey • Planck data analysis and interpretation • Ground-based arcmin-scale CMB polarization experiment 	<ul style="list-style-type: none"> • Next generation WL survey • SKA (as next generation galaxy redshift survey)
First Light	<ul style="list-style-type: none"> • Access to 8m telescopes • Access to LOFAR 	<ul style="list-style-type: none"> • ELT • JWST • SKA
Galaxies	<ul style="list-style-type: none"> • Access to HST and 8m telescopes • Access to standard galaxy evolution fields in the sky (e.g. GOODS, COSMOS, etc.) • SCUBA-2 • GAIA • Herschel 	<ul style="list-style-type: none"> • JWST • ELT • ALMA • SKA
Extreme Astrophysics	<ul style="list-style-type: none"> • LOFAR • XMM-Newton • Access to rapid 8m telescope follow-up in both hemispheres • Optical/IR transient surveys 	<ul style="list-style-type: none"> • IXO • Advanced LIGO • SKA • Access to rapid 8m telescope follow-up in both hemispheres • Optical/IR transient surveys