

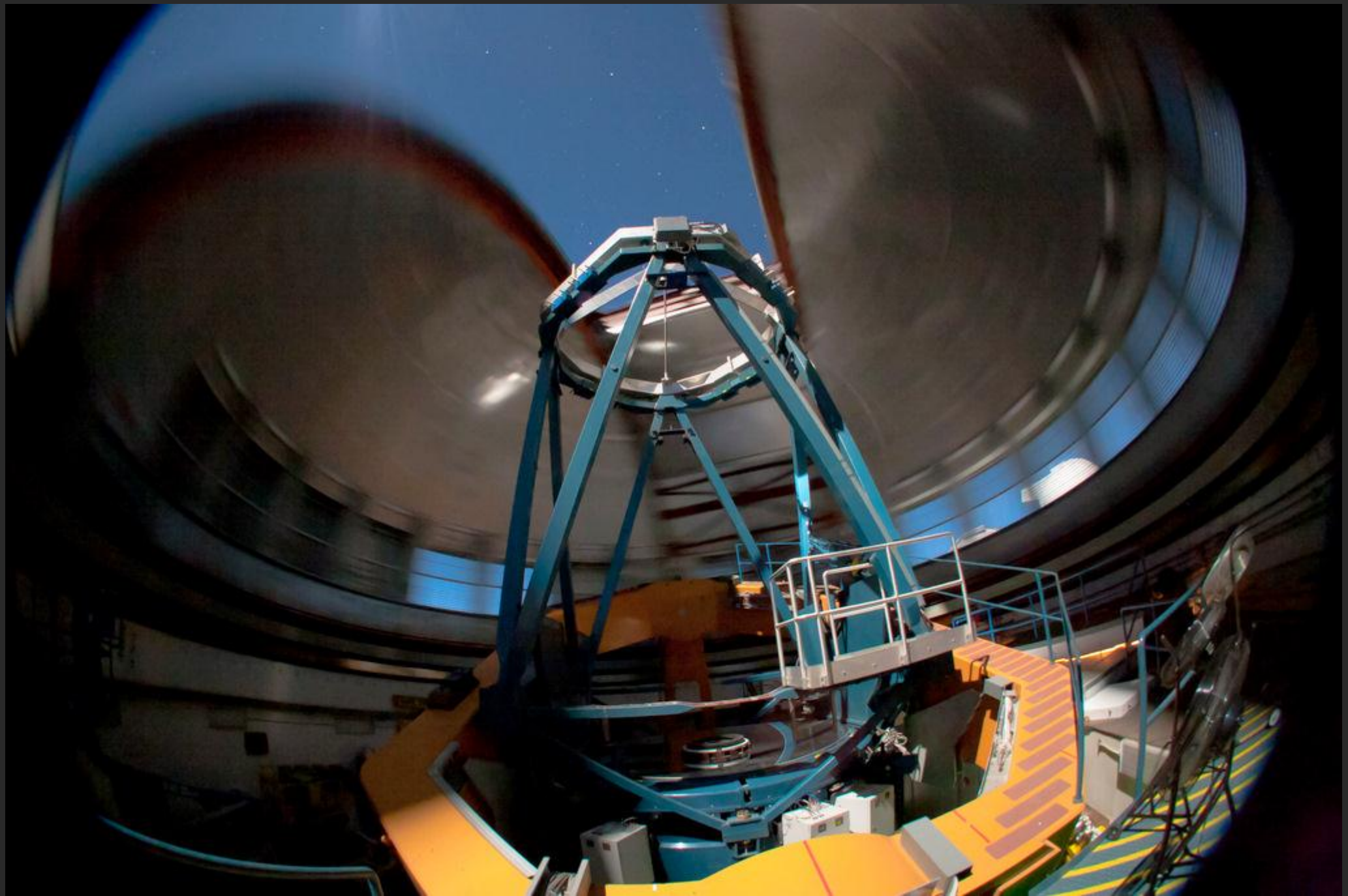
Switching the United Kingdom Infrared Telescope to remote operations

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UKIRT

- ✦ First light in 1979
- ✦ Largest dedicated IR telescope until VISTA
- ✦ Operated with three Cassegrain instruments
- ✦ In 2005 started using WFCAM
- ✦ Dedicated WFCAM use since Feb 2009
- ✦ Now almost exclusively in survey mode





Motivation

The switch to remote observing driven by funding pressure (STFC)

- Streamlined science programme
- Elimination of visiting observers, no summit support
- Remote operations – remove summit operating costs

Minimalist mode budgeting

Objective: to reduce the cost (to STFC) of operating UKIRT such that it becomes more attractive to continue operating than to close it

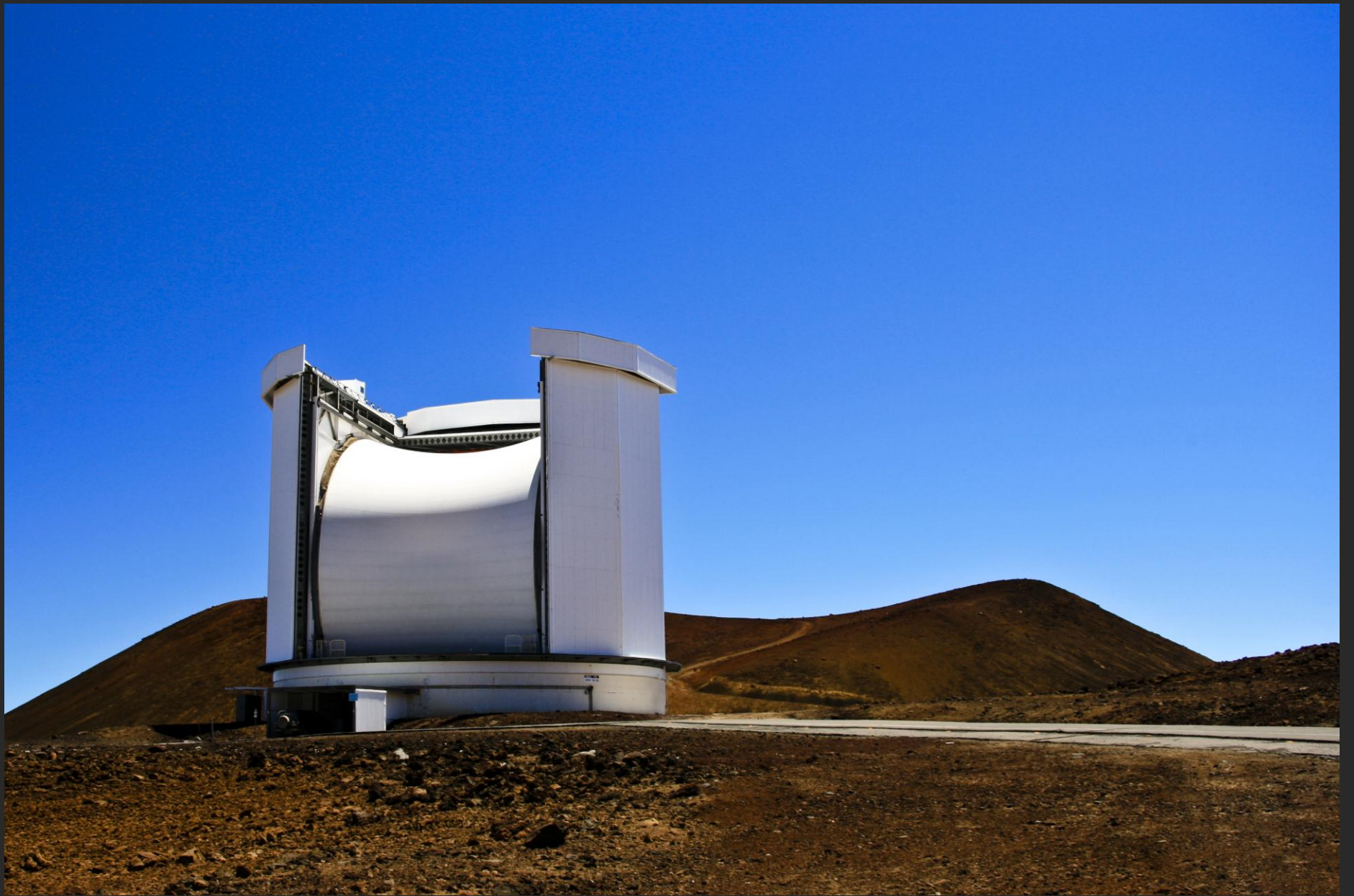
	Current Mode	UKIRT Closed	Minimalist UKIRT
JCMT (STFC)	2.8	5.0	3.0
UKIRT	3.7	0	2.0
TOTAL	6.5	5.0	5.0

all numbers in US\$M for FY11/12

Brief history

- ✦ Need change became apparent in January 2010
- ✦ Board approval given in April
- ✦ Implementation plan produced in June
- ✦ Terms and conditions reviewed in July/August
- ✦ Main engineering work October/November
- ✦ First remote night 13th December 2010





Stuff that really helped

- JCMT crew still operate at summit
- The crew inspect UKIRT each evening
- They are available in case of emergencies

- Infrastructure was already in place (PLC/EPICS)
- Tests in early 2010 showed no showstoppers
- OMP software makes observing “easy”

Stuff that's not so helpful

- ✦ Reliant on JCMT crew being at summit
- ✦ Must close if JCMT crew leave
- ✦ We cannot open without initial inspection
- ✦ Ice forming after dark makes us very cautious

Security and safety

- ✦ Infrared and low-light cameras
- ✦ Motion detectors
- ✦ Microphones
- ✦ Secured dome
- ✦ Initial inspection
- ✦ Continuous contact with JCMT (polycom)
- ✦ Automatic shutdown systems

UKIRT Thermal Camera 2011-02-03 15:23:19



Remote operation model

- ✦ No observer, only a single TSS (operator)
- ✦ Shifts shared between three TSSs, 5 on 10 off
- ✦ Only UKIDSS, campaigns, CEOU and UH with a little PATT and DDT
- ✦ Remote eavesdropping possible
- ✦ Visiting observer welcome but will be bored
- ✦ Staff update priorities page daily but OMP tells TSS what to observe
- ✦ DR pipeline provides all necessary information

Some remarkable results

Only been running for a couple of months, but...

- ✦ TSSs seem very happy at sea level
- ✦ Efficiency hasn't been affected so far
- ✦ Fault rate remains very low (~2%)
- ✦ Phone call rate is not out of hand

Things I'll miss

