

MIPAS STUDIES AT LEICESTER

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Objectives



Atmospheric science – the global UT/LS

- To better characterise ozone loss in the *polar* lower stratosphere (LS) through observations of polar stratospheric clouds (PSCs) and associated chemical changes [MAPSCORE, ACHWE-MMM]
- To examine the *global* chemistry of ozone in the upper troposphere (UT) focussing on effects of organic compounds, HNO_3 , and sub-visible cirrus clouds [CUTLSOM]
- To investigate climate-chemistry interactions, particularly through the roles of O_3 , H_2O , and CFCs/HCFs in radiative forcing.

Key cal/val activities [ESL, CUTLSOM]

- Reference atmospheres – target *and* interfering gases
- Cloud detection (“cloud indices”) and effects on retrievals
- Spectroscopy including new laboratory measurements
- Spectral display and MW database plotting tools
- Level 1b and 2 software
- Global mapping

Leicester contributions



Emphasis is on *global*/ UTLS.

Mark and Alison included here as JJR students.

Collaboration with Oxford/RAL, IROE/Bologna, IMK, LPM, IAA

Operational:	O ₃	Mark (UT/LS)
	H ₂ O	Mark (UT/LS), Reinhold (UT, polar LS)
	CH ₄ /N ₂ O	David (UT/LS)
	HNO ₃	Grant (UT), Reinhold (UT, polar LS)
	NO ₂	Grant
Clouds (PSCs/tropical)		Reinhold
Special:	Acetone	Alison (UT)
	PAN	Grant (UT)
	C ₂ H ₂ , C ₂ H ₆	John/Grant
	CFCs/HCFCS	David (UT/LS)