

ASTAR 2007 / Falcon Payload (final status)

Category	Instrument	Method	Measurement	Institute	PI
Aerosol	CPSA/CPC system	6-channel condensation particle counter system (unheated/heated)	Nucleation and Aitken mode aerosol number concentration, semi-/non-volatile particle fraction	DLR-IPA	Minikin
	PCASP-100X FSSP-300	Aerosol spectrometer probes	accumulation and coarse mode particle size distribution, cloud elements	DLR-IPA	Minikin
	Grimm OPC	Optical particle counter	accumulation mode particle size distribution	MISU/ITM Stockholm	Krejci
	(Tandem-) DMA	Differential mobility analyzer (unheated/heated), volatility tandem mode (optional)	Aitken & accumulation mode particle size distribution, aerosol mixing state	MISU/ITM Stockholm	Krejci
	PSAP	Particle soot absorption photometer	Aerosol absorption coefficient	MISU/ITM Stockholm	Krejci
	3λ PSAP	3-wavelength Particle soot absorption photometer	Aerosol absorption coefficient	FMI & DLR-IPA	Virkkula (Minikin)
	IN	Integrating nephelometer (Radiance Res.)	Aerosol scattering coefficient	NIPR	(Krejci / Minikin)
	Aerosol sampling	Filter/impactor sampling for single particle element analysis	Aerosol chemistry	TU Darmstadt	Worringen (Minikin)
Trace gases	NO/NO _y & j(NO ₂)	Chemi-luminescence & AU converter, filter radiometer	NO & NO _y mixing ratios, calculation of NO ₂	DLR-IPA	Schlager
	CO	VUV fluorescence	Carbon monoxide mixing ratio	DLR-IPA	Schlager
	Ozone	UV absorption	Ozone mixing ratio	DLR-IPA	Schlager
	IT-CIMS	Chemical ionization mass spectrometry	SO ₂ mixing ratio, also HNO ₃ and HCl possible	MPI-K & DLR-IPA	Arnold / Schlager
	CR-2	Frost point hygrometer	humidity	DLR-IPA	Busen (Minikin)
	Mini-DOAS	Differential absorption spectrometry	Halogen compounds	Uni Heidelberg	Prados & Simmes
Aircraft data	Aircraft position data	Falcon basic sensor instrumentation	Aircraft position data	DLR-FB	Dreiling
	Atmospheric state	Falcon basic sensor instrumentation	Pressure, temperature, humidity, wind	DLR-FB	Dreiling