

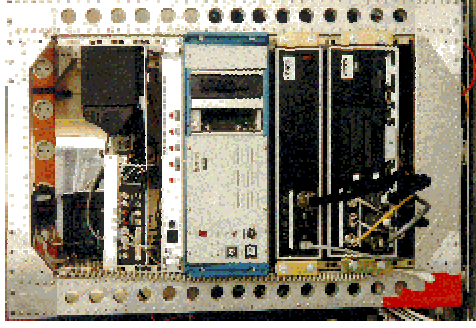
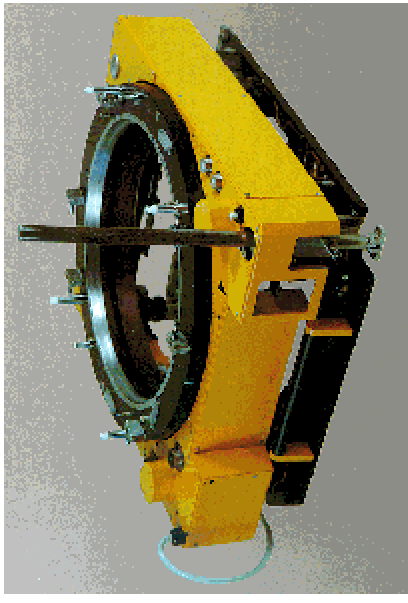
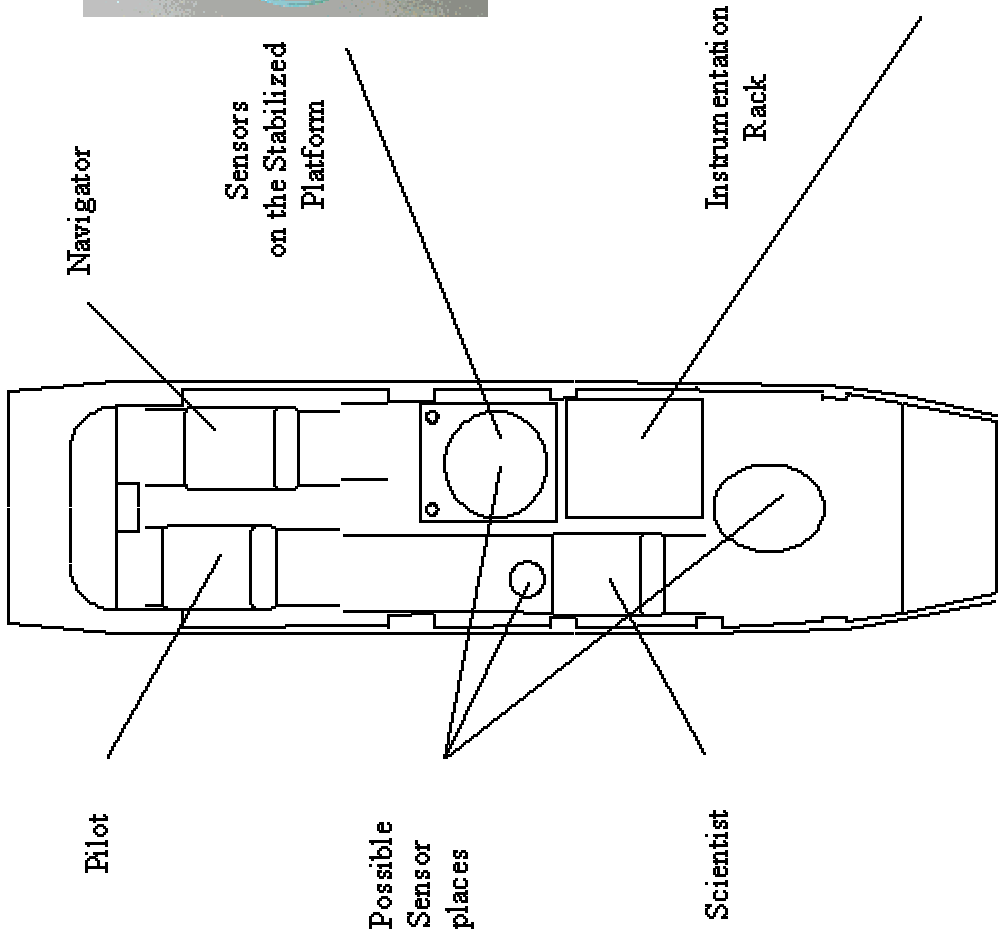
Cessna C207 T



Technical Data:

Type	CESSNA 207 T (C 207 T)
Motor	Continental TSIO 520 M
Wing Span	10,92 m
Length	9,80 m
Height	2,92 m
Speed Range	80 -140 kts
Service Ceiling	6000 m (19000 ft)
(Max.) Flight Time	4h20min (including 20 min reserve)
Empty Weight	1185 kg
(Max.) Landing Weight	1724 kg
(Extended) Takeoff Weight	1923 kg

Cessna Instrumentation (Part I)



Cessna Instrumentation (Part II)

The evaluation of radiances measured by airborne spectrographs enables the derivation of the following cloud parameters, which will be extended in the near future:

instrument	cloud parameter
casi – imaging spectrograph spectral range: $\lambda = 0.4 \dots 1 \mu\text{m}$ FUBISS – spectrograph spectral range: $\lambda = 0.3 \dots 1.7 \mu\text{m}$	cloud fraction optical depth, effective radius, cloud droplet concentration, geometric thickness
FTIR – multispectral radiometer spectral range: $\lambda = 5 \dots 17 \mu\text{m}$	temperature + cloud top height, optical depth, spectral emissivity, effective radius, LWP

Additionally, a navigation system and a videocamera are recording the current position.

Restrictions

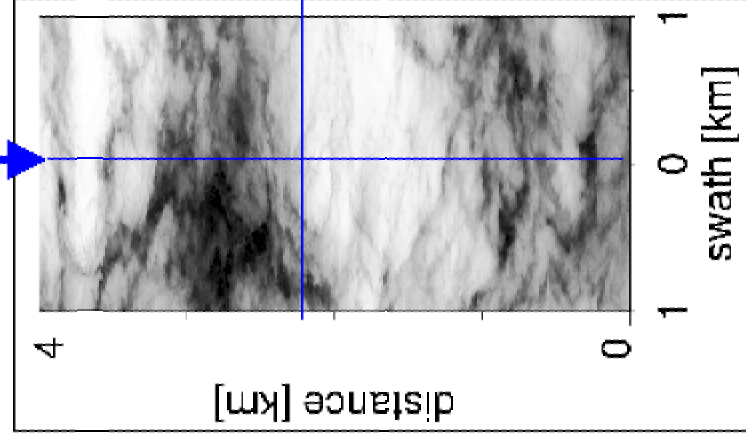
Due to the instrumentation the following restrictions are required:

- maximum flight speed of 105-110 kts (platform)
- maximum flight altitude of 3050 m

The FTIR needs liquid nitrogen for cooling.

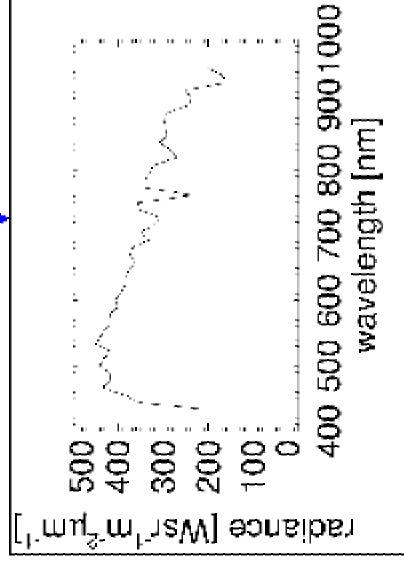
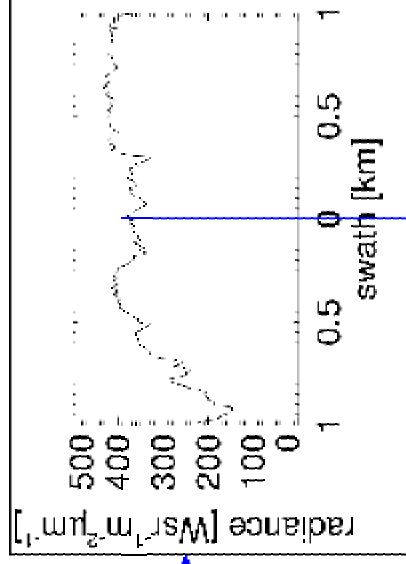
casi results

FTIR: ~every 500 m
FUBISS: ~every 0.5 sec
(next page)



casi image

spatially dependent radiance
at 647 nm

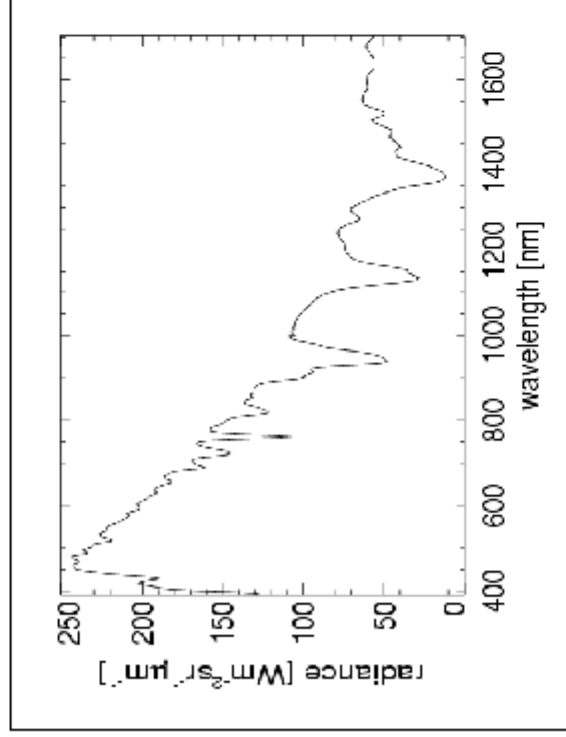


spectral dependency of the radiance
at nadir angle

FUBISS and FTIR results

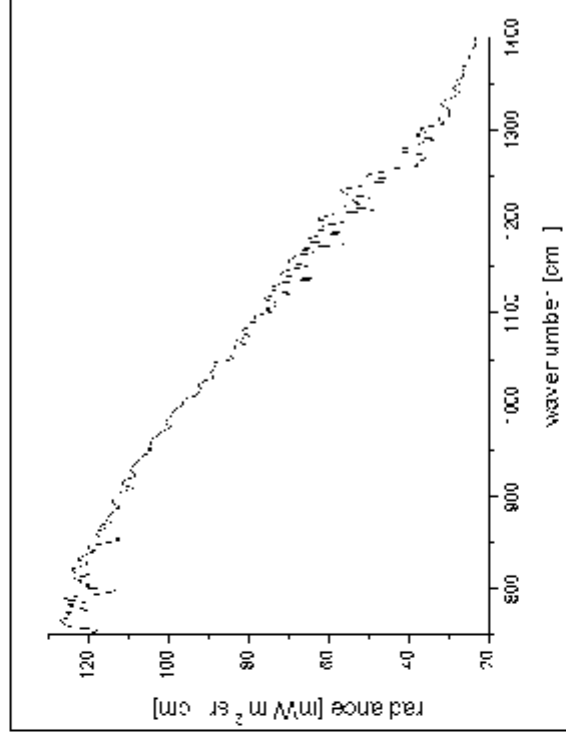
FUBISS

(one exemplary result of a combined *vis*
and IR spectrometer measurements)



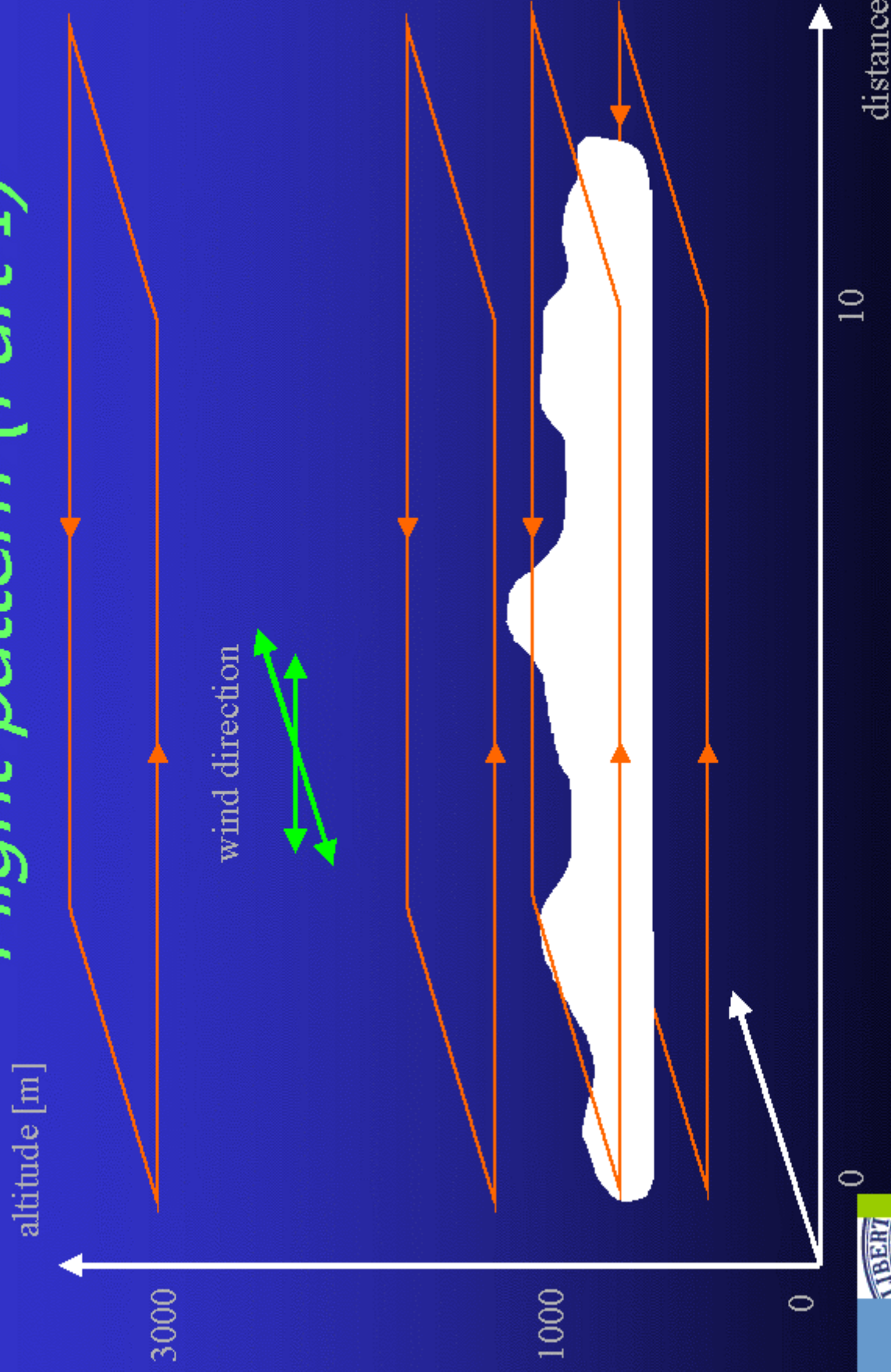
spectral radiance at nadir angle

FTIR



spectral radiance at nadir angle

Flight pattern (Part I)



Flight pattern (Part II)

