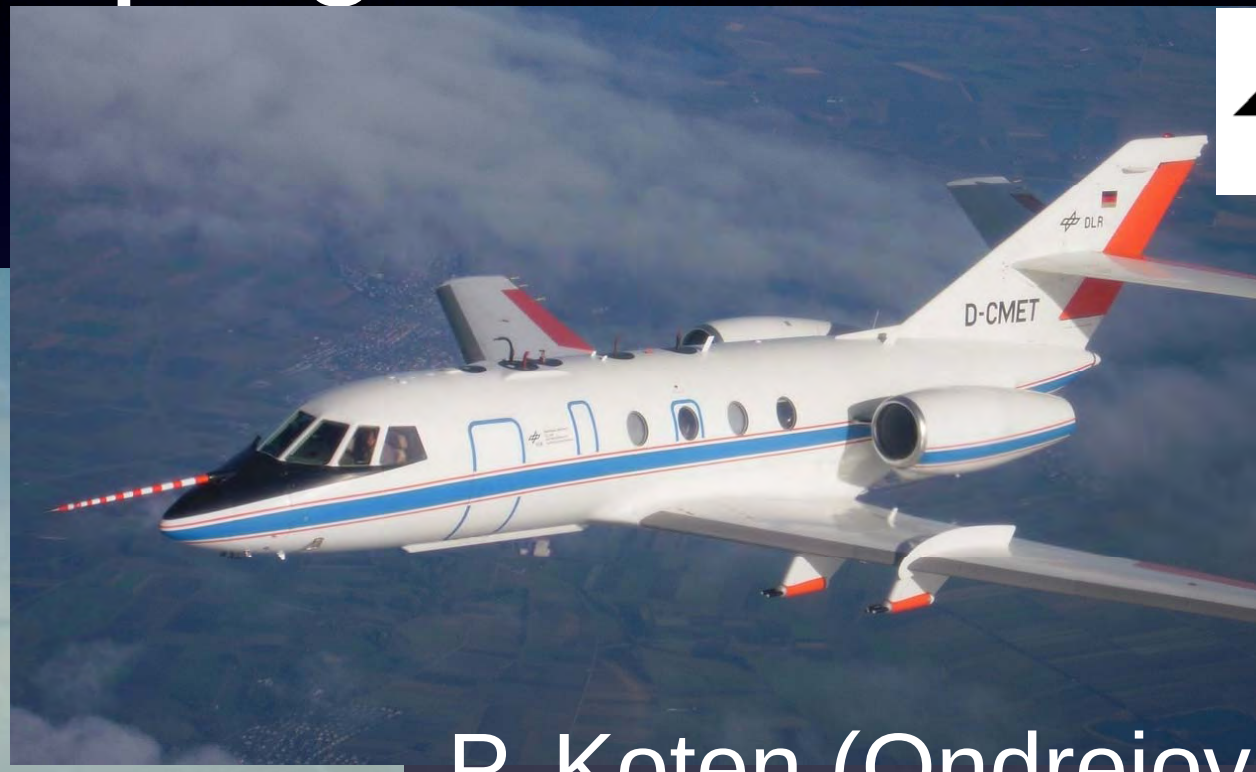
DRACONIDS AIRBORNE OBSERVATION CAMPAIGN

J. Vaubaillon, P. Koten, R. Rudawska, S. Bouley, L. Maquet, F. Colas, J. Toth, J. Zender, J. McAuliffe, D. Pautet, P. Jenniskens, J. Borovicka, D. Koschny, A. Leroy, J. Lecacheux

meteor airborne based observation campaign

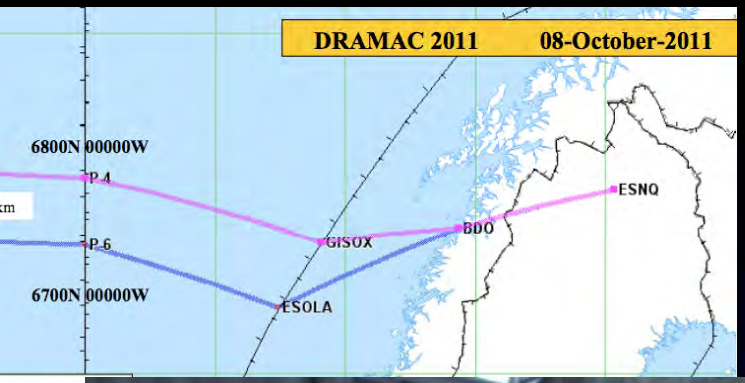


aubaillon (IMCCE, PI)
cAulliffe (INSA/ESA)
autet (USU)
IRE
U/CNRS/Meteo
ce)

P. Koten (Ondrejov

J. Zender (E
J. Toth (Univ. Bratis
EUFAR (Eur

(1)



re Falcon

R Falcon
kof 10 min
ior Safire Falc
18:50 UT

CE WATEC + grating

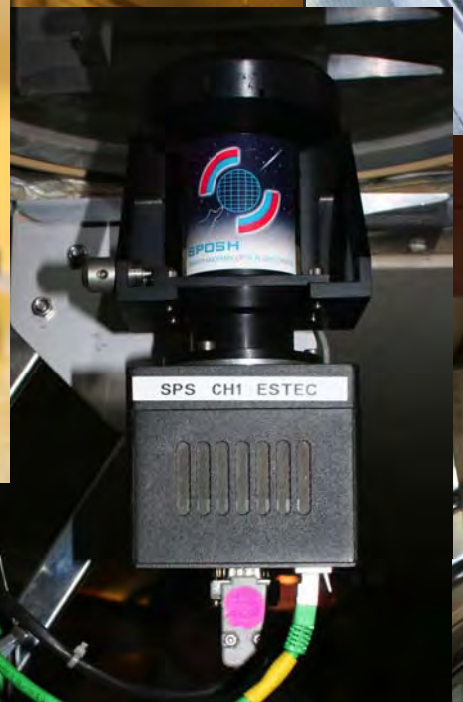
P. Jenniskens
intensified camera
+grating

SPOSH (ESA)

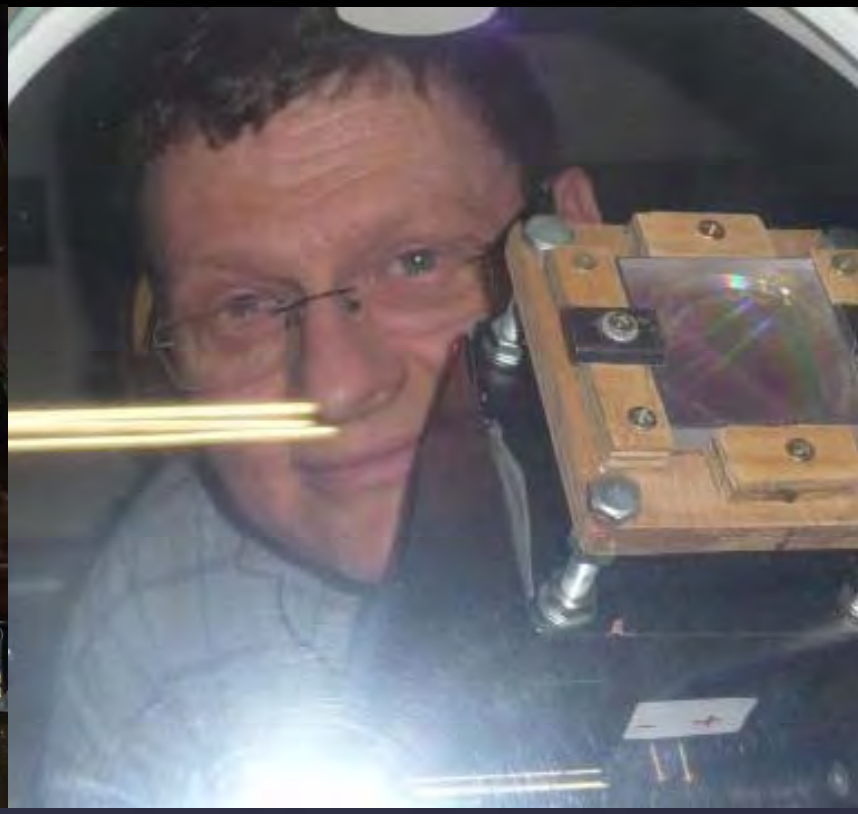
IN
CAB

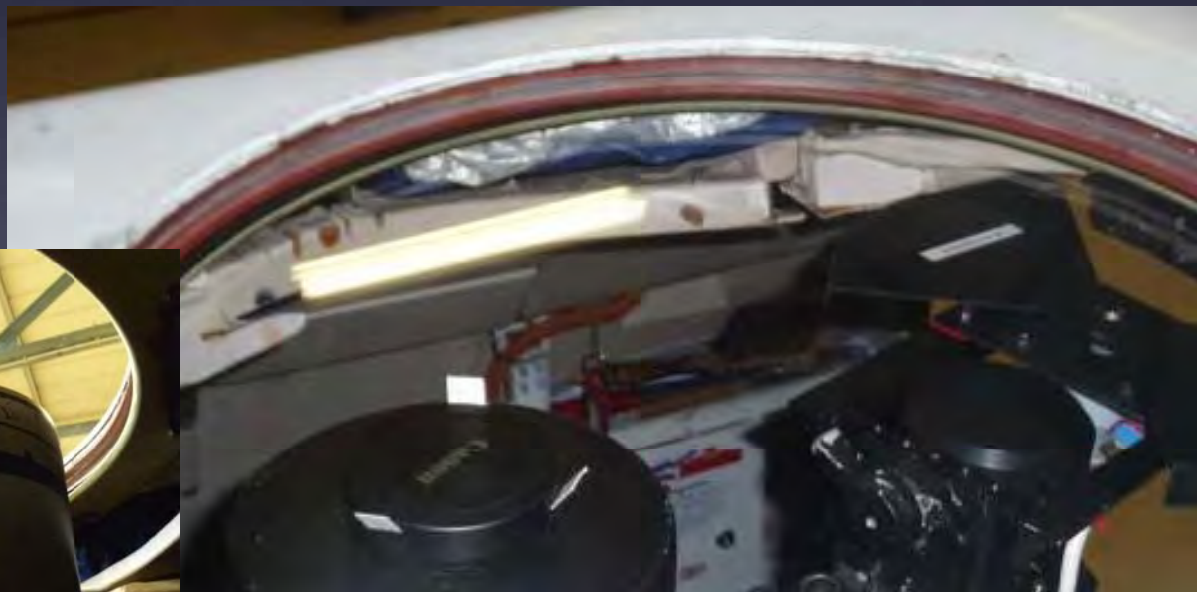
Koten
nsified

NHK EMCCD

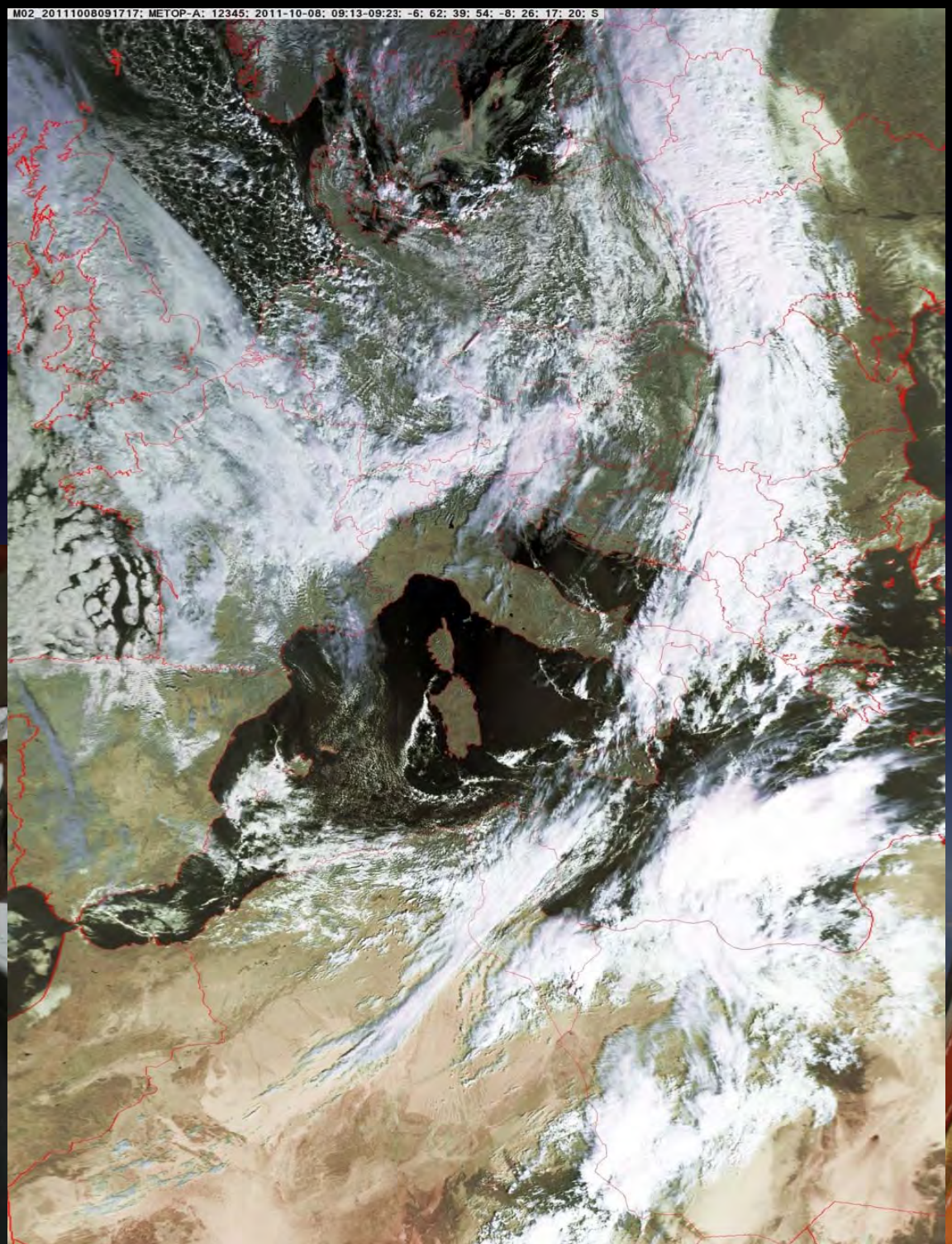


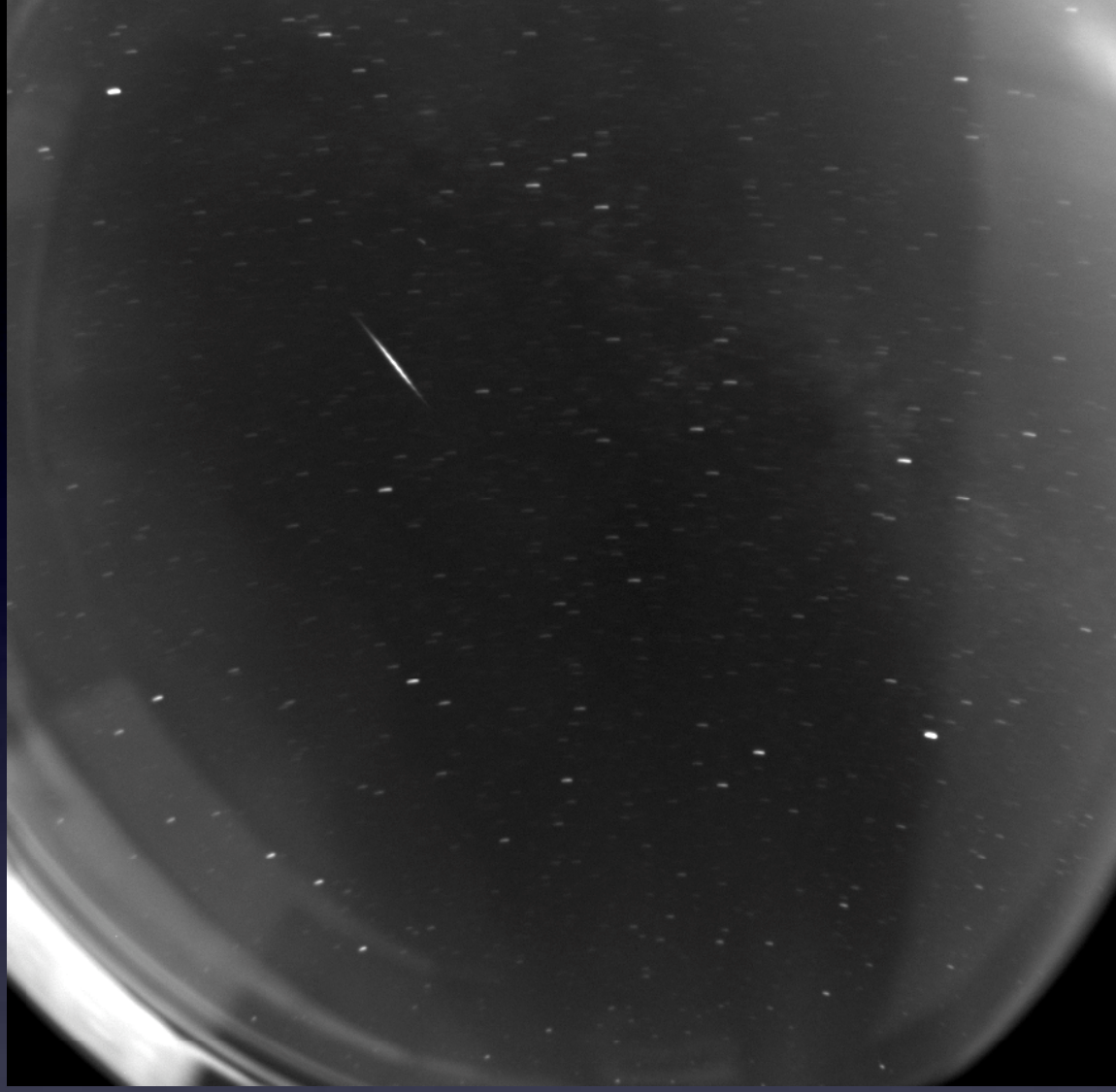
20



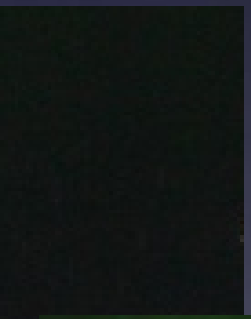


location: DLR F20
J. Zender, ESA


M02_20111008091717: METOP-A: 12345: 2011-10-08: 09:13-09:23: -6: 62: 39: 54: -8: 26: 17: 20: S



QuickTime™ and a
decompressor
are needed to see this picture.



QuickTime™ and a
decompressor
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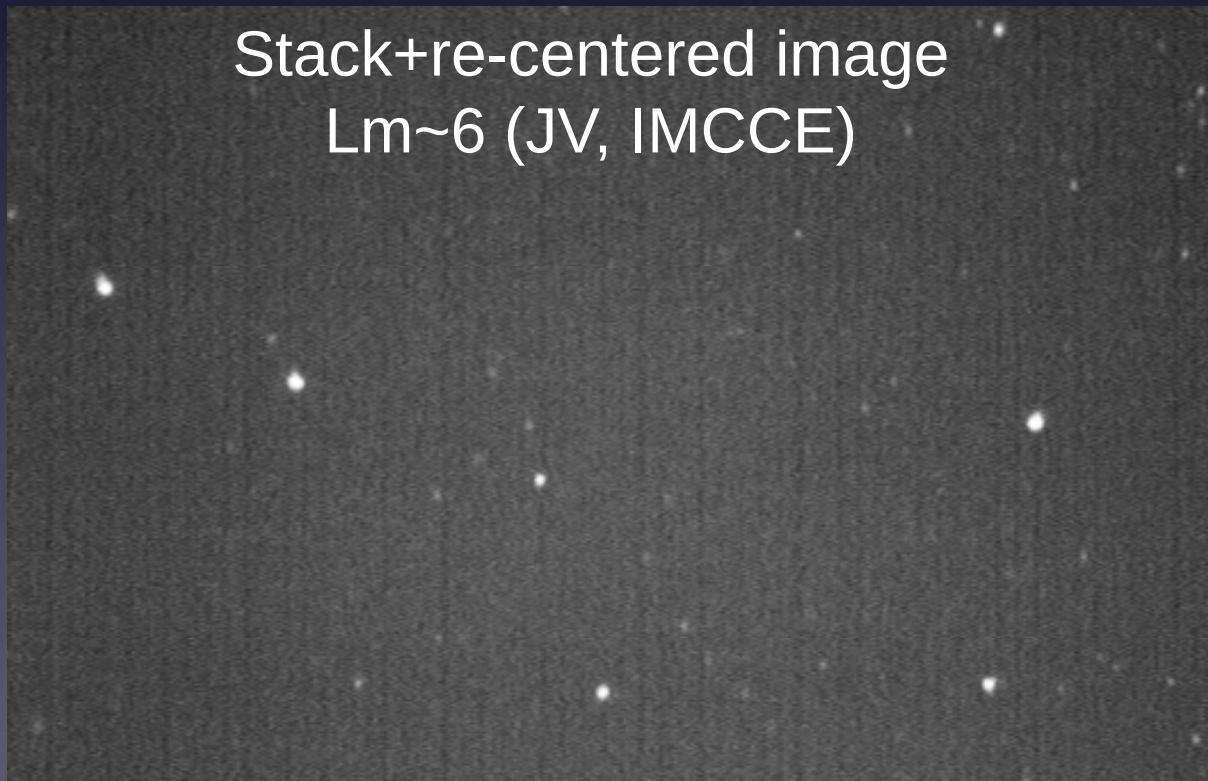
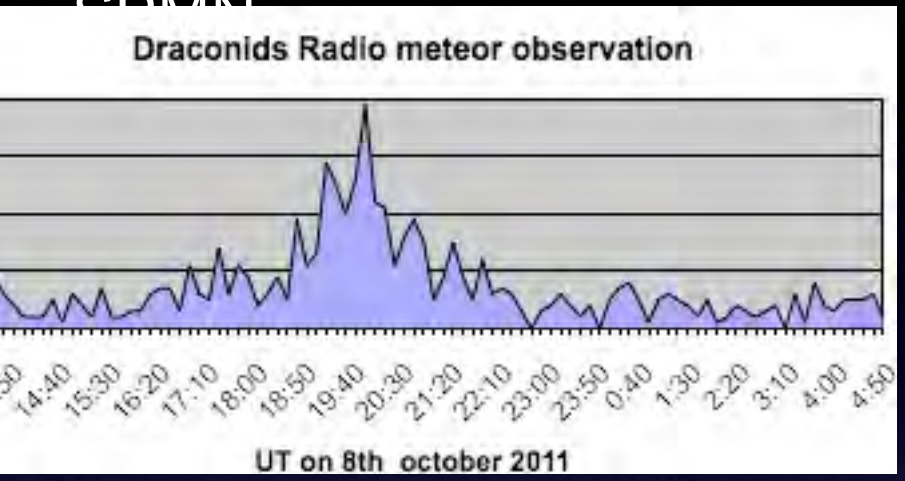
Documentary in English
available for free

Stack+re-centered image
Lm~6 (JV, IMCCE)



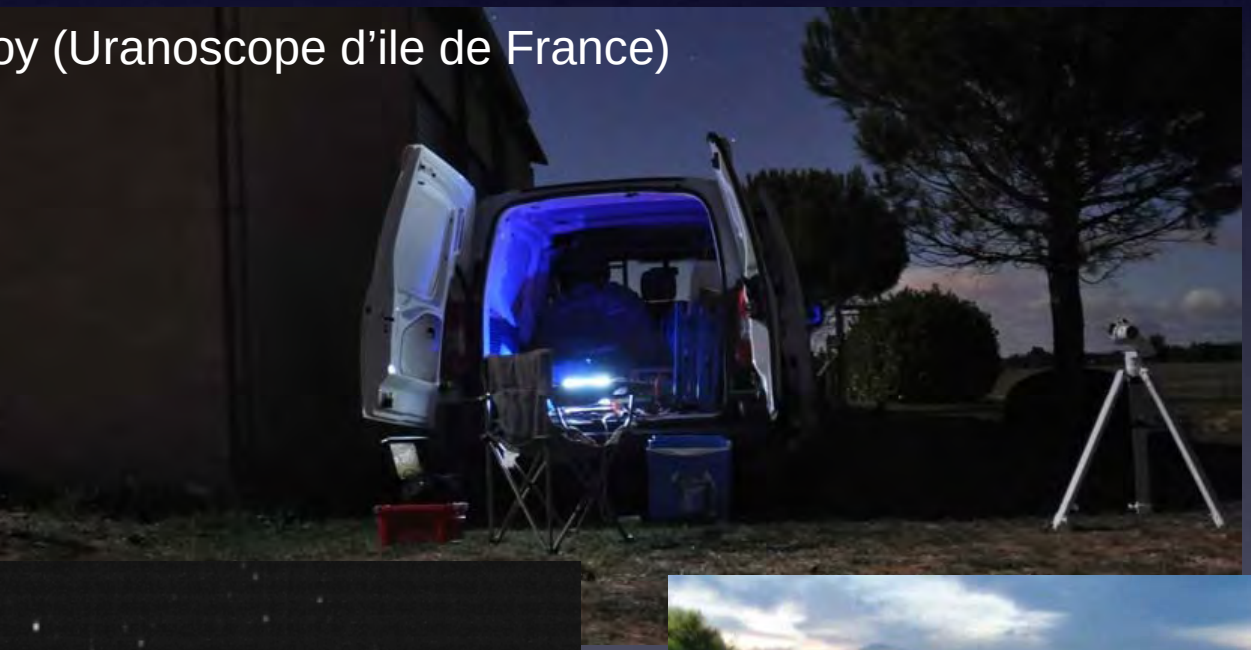
A team effort

odriguez, Spain +
SPMN

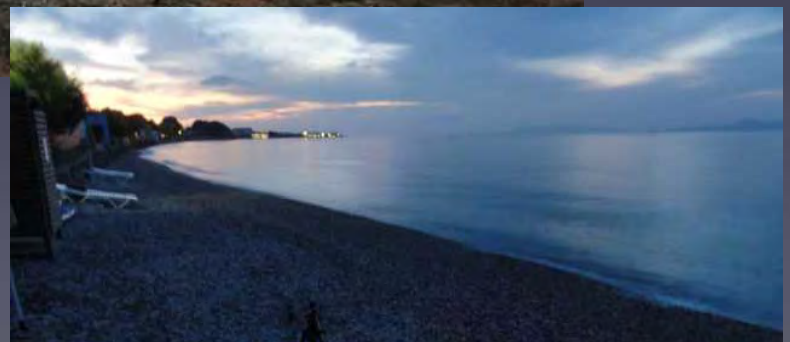


L. Maqu

oy (Uranoscope d'ile de France)



S. Boule



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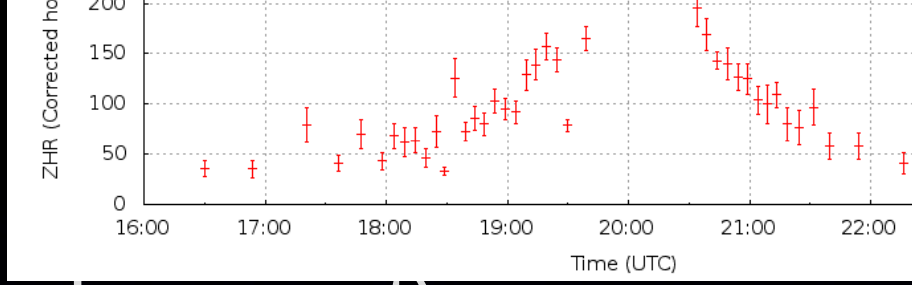
The outburst



source

spected first peak at ~17 UT (still working on it)

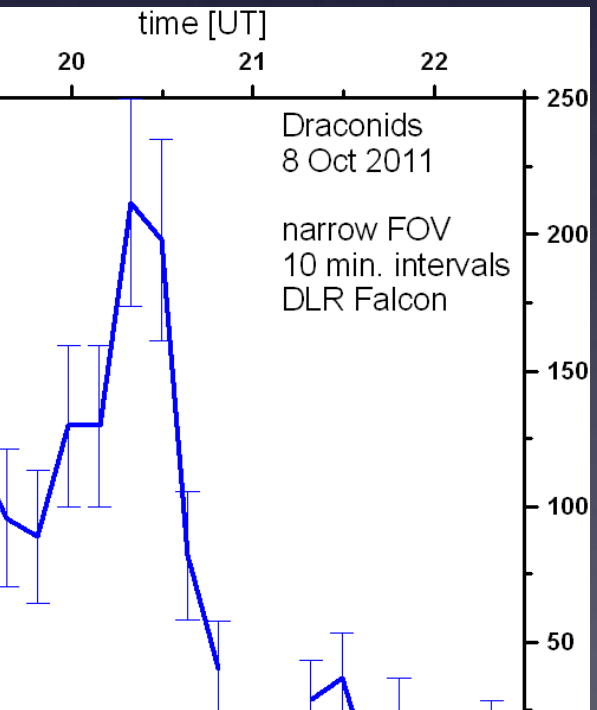
d peak right on time!

R ~250-300/hr = 1/2 of what was expected => 1933 & 1946

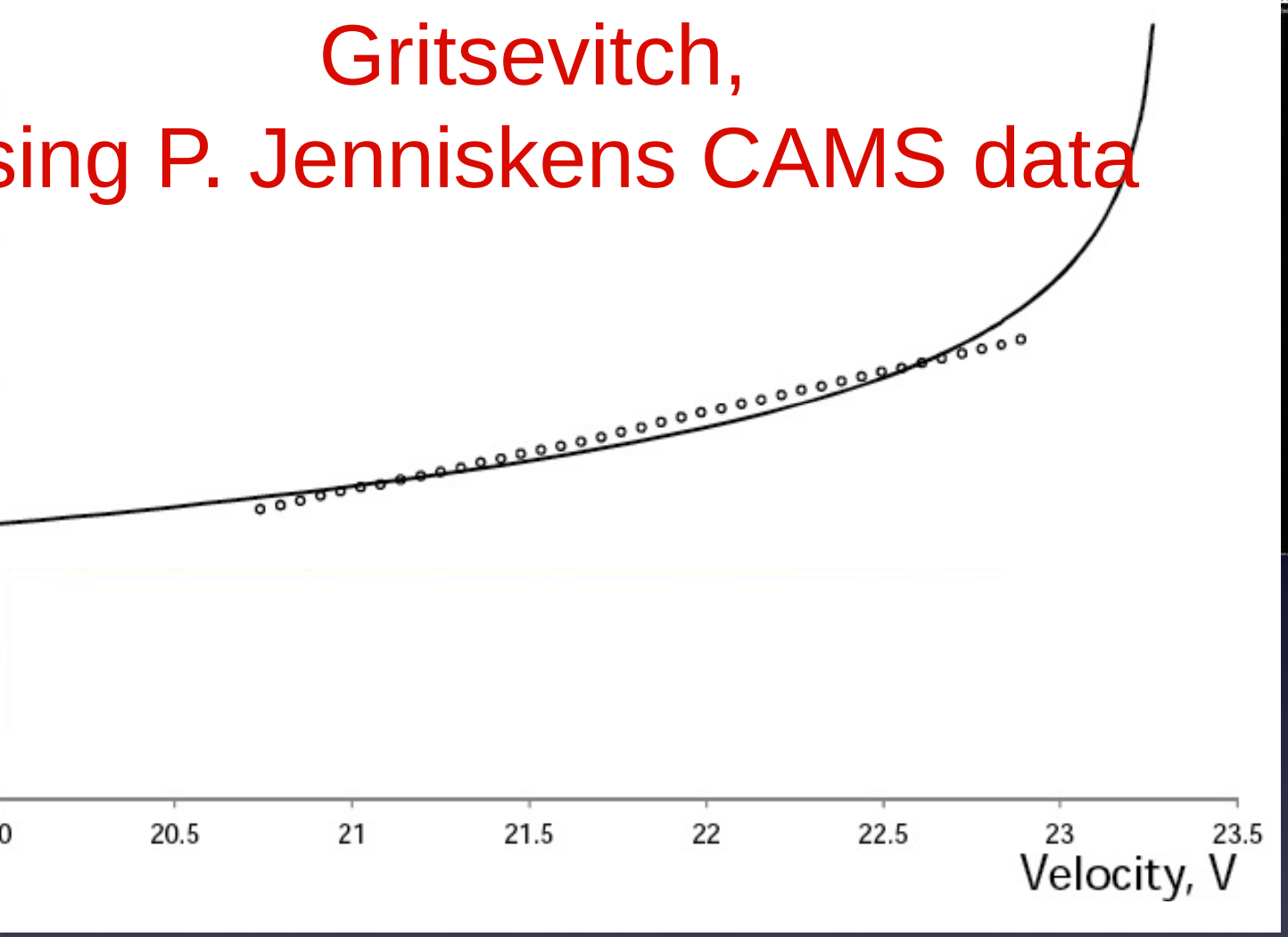
orts 50% off because of no reduction method (?)

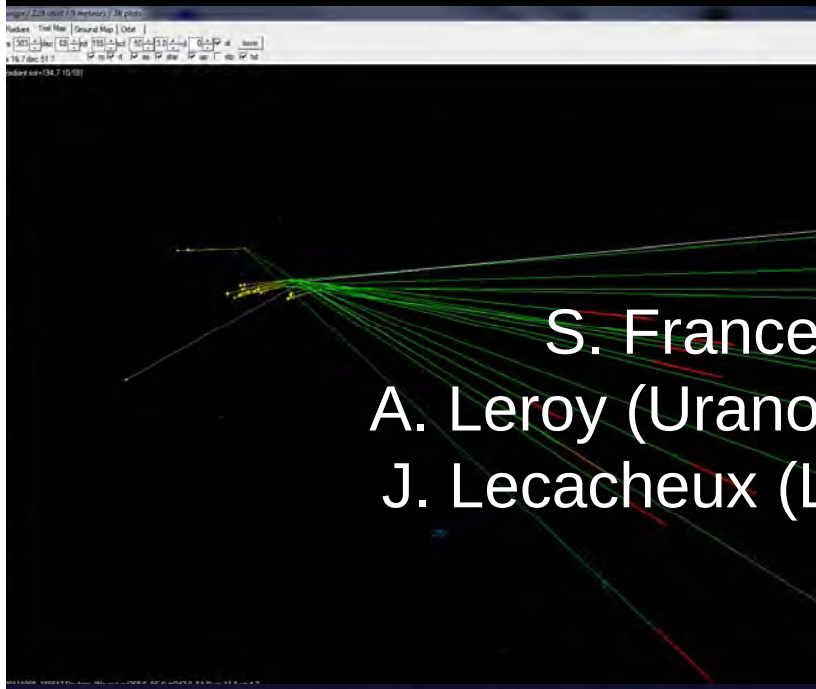
ass sorting: maximum activity of bright meteors earlier than d

eors



deceleration rate by M. Gritsevitch,
sing P. Jenniskens CAMS data



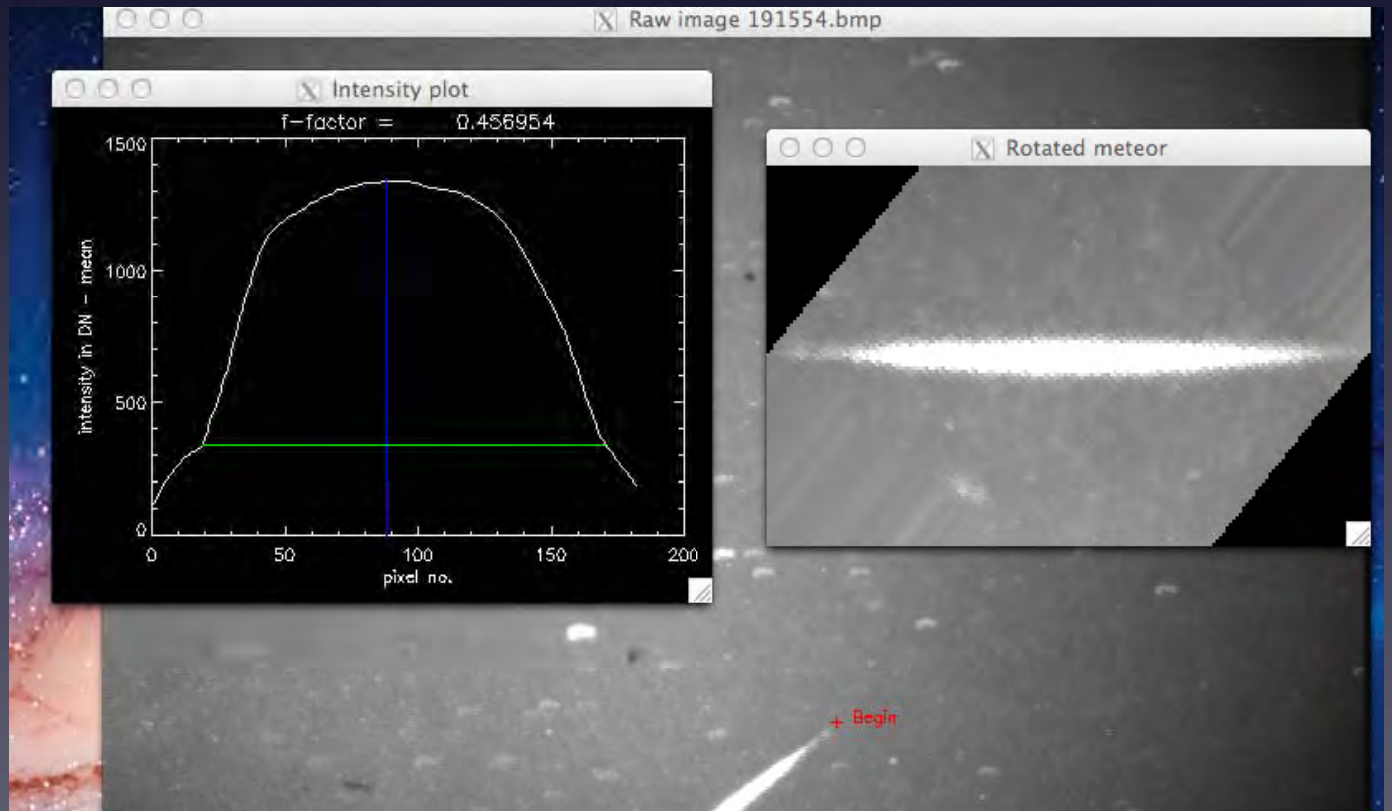


S. France
A. Leroy (Urano
J. Lecacheux (L

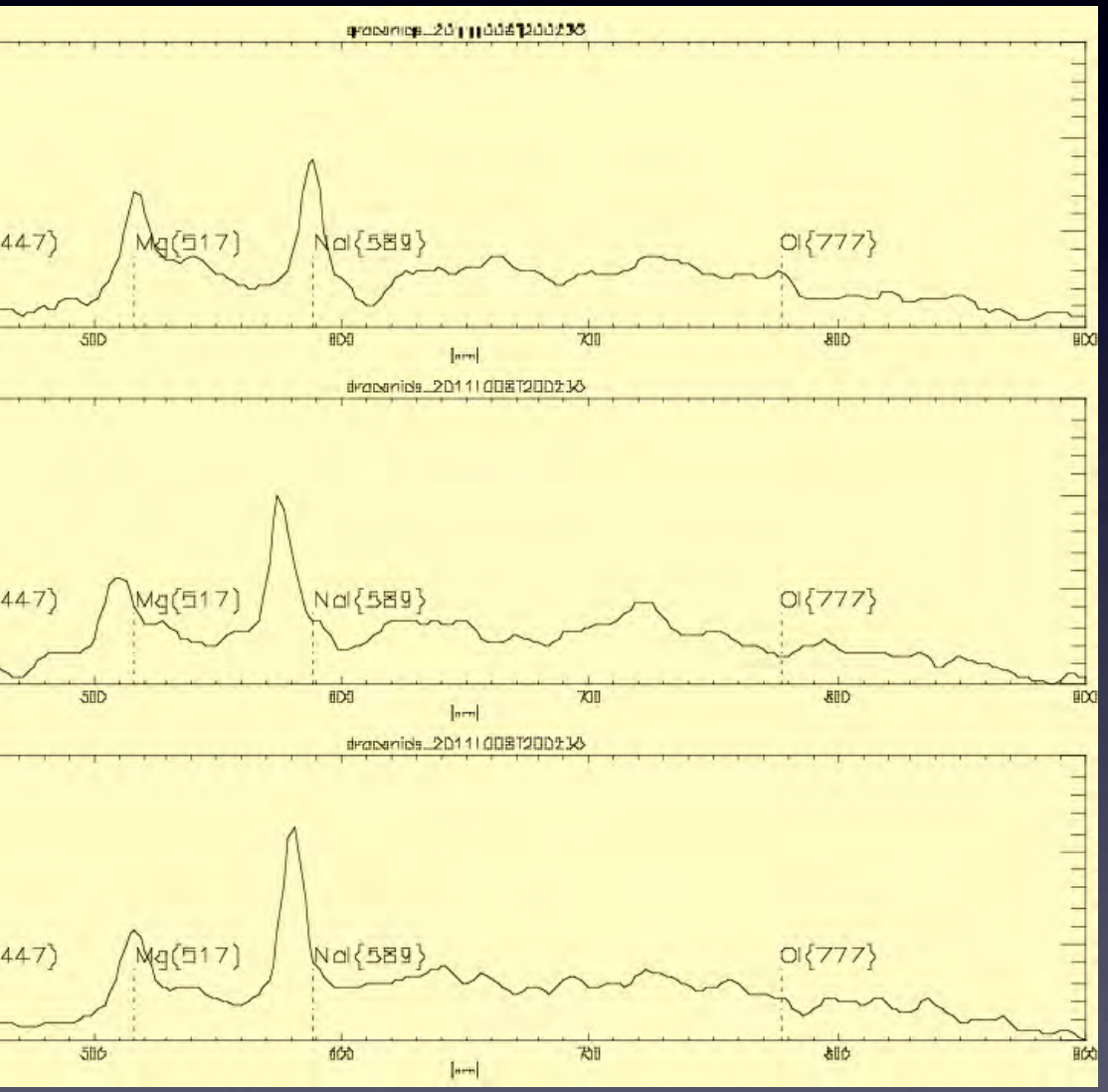
AFIRE+DLR plane data
ll under analysis (by P.
Koten & J. Vaubaillon)

Light curve analysis (D. Koschny, ESA)

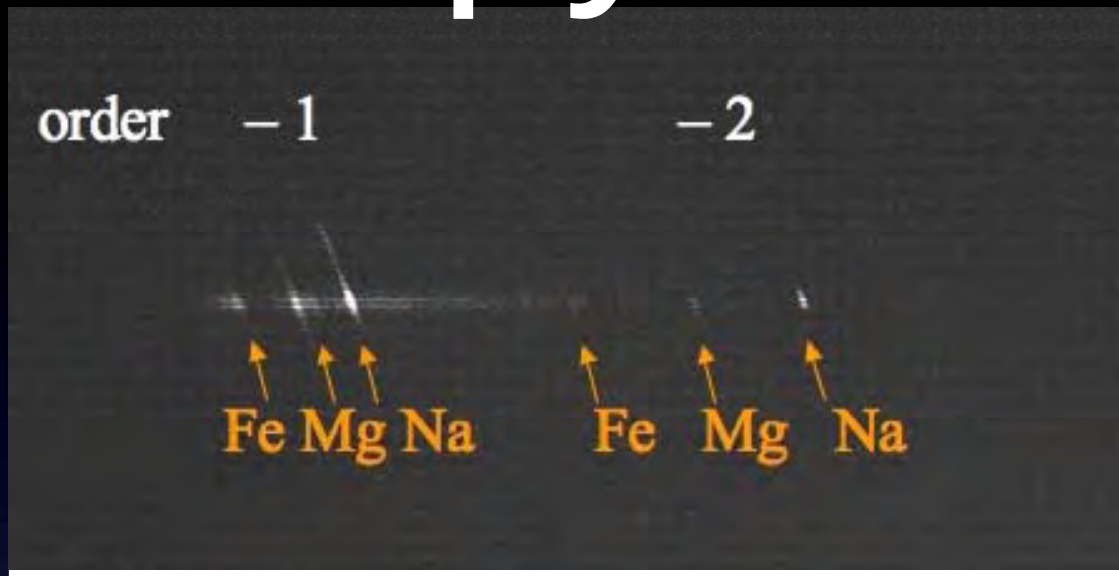
- F-number does not look especially low
- Flat light curves observed by many cameras

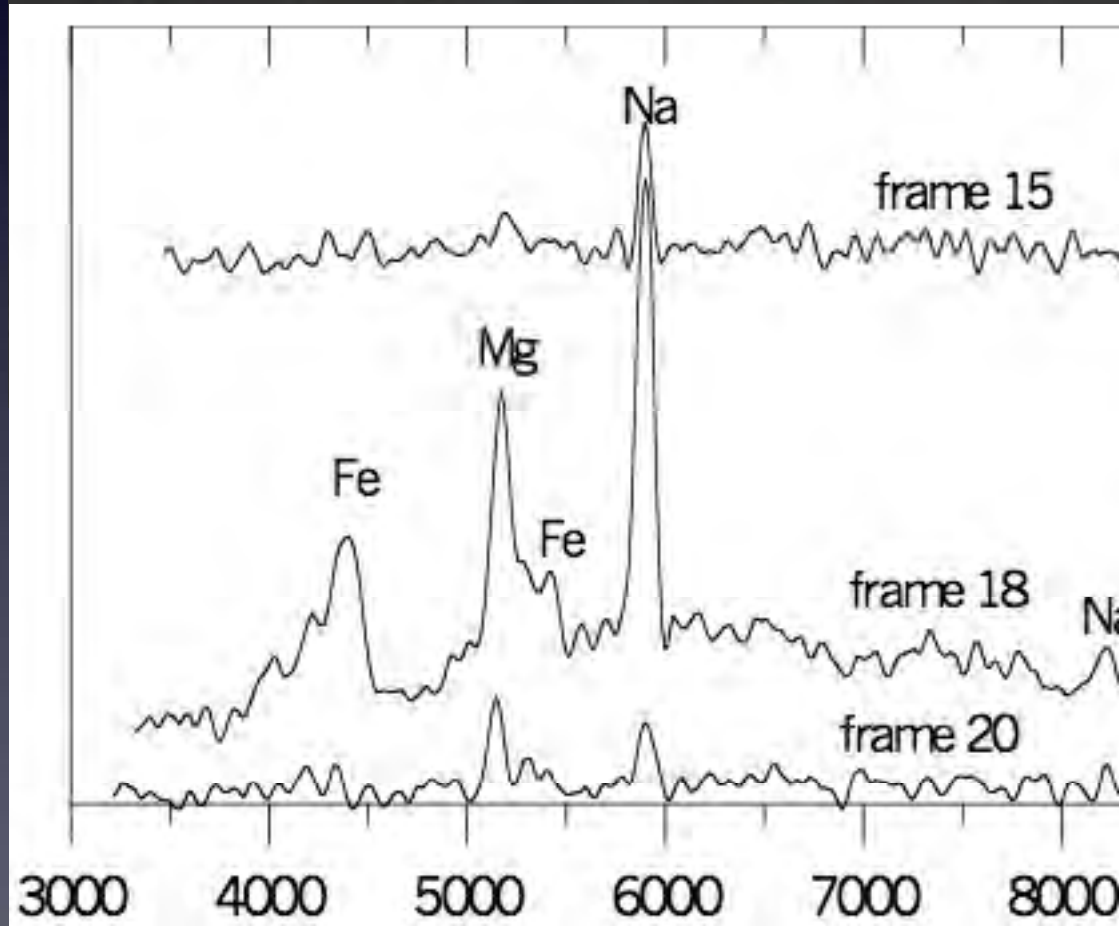


Spectroscopy



J. Zender, ESA





What did we learn? (1)

- 1st European airborne meteor observation campaign
- Excellent collaboration! Exchange of cameras team work along with ground
- Wanna fly? Bring a camera!
- SAFIRE/EUFAR: 2 very different approaches
- Flight change MAY be changed 2 days prior t flight

our/my biggest mistakes..!

- Flight plan has to be optimized one year ahea
- nightmare to fly in that country because neec authorizations
- Russian bureaucracy to bug 6 months in advance even if they don’t reply
- Write procedure and FOLLOW procedure (to avoid to forget to press the “record” button)
- No heat in cabin, no matter what! => noise
- coordinate spectra and orbit camera

Still TODO list

- get orbits (90% done)
- get deceleration
- exploit IR data
- exploit light curve
- challenge: auto-detection of meteors in a moving plane!!!
- 1st peak to confirm

Conclusion

1st European airborne meteor observation campaign + ground based collaboration

2011 Draconids showed up right on time!

ZHR~250 => revise past storm report?

Fragile cometary dust?

Documentary available for free at

Acknowledgements

MCCE OSPM GAIA PNP CNRS

SAFIRE (R. Cailloux+team), EUFAR

. MCAulliffe (INSA/ESA), D. Paute (CNES)

P. Koten (co-I, Ondrejov obs), J. Toth (Univ Bratislava), J. Zender (ESA)

F. Colas, S. Bouley, R. Rudawska, L. Maquet

MCCE

P. Jenniskens - SETI Institute