

SCIAMACHY ACVE 2

ESRIN, Frascati, 2nd -7th May 2004

SCIAMACHY Instrument Performance and Operations

- **1. Operations (overview)**
- **2. Performance**
 - **2.1 Transmission in Channel 7 & 8**
 - **2.2 Stray Light in Channel 7**
 - **2.3. Temperatures of Detectors (only hand out)**
- **3. Operation Changes**
- **4. Processing Changes**

1. Operations

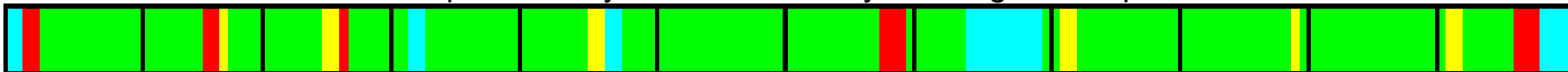
2002

Jan. Feb. March April May June July Aug. Sep. Oct. Nov. Dec.



2003

Jan. Feb. March April May June July Aug. Sep. Oct. Nov. Dec.



2004

Jan. Feb. March April May June July Aug. Sep. Oct. Nov. Dec.



Nominal Measurement

OCM or "ENVISAT off"

Decontamination (reduced measurement)

"SCIAMACHY off"

1. Operations

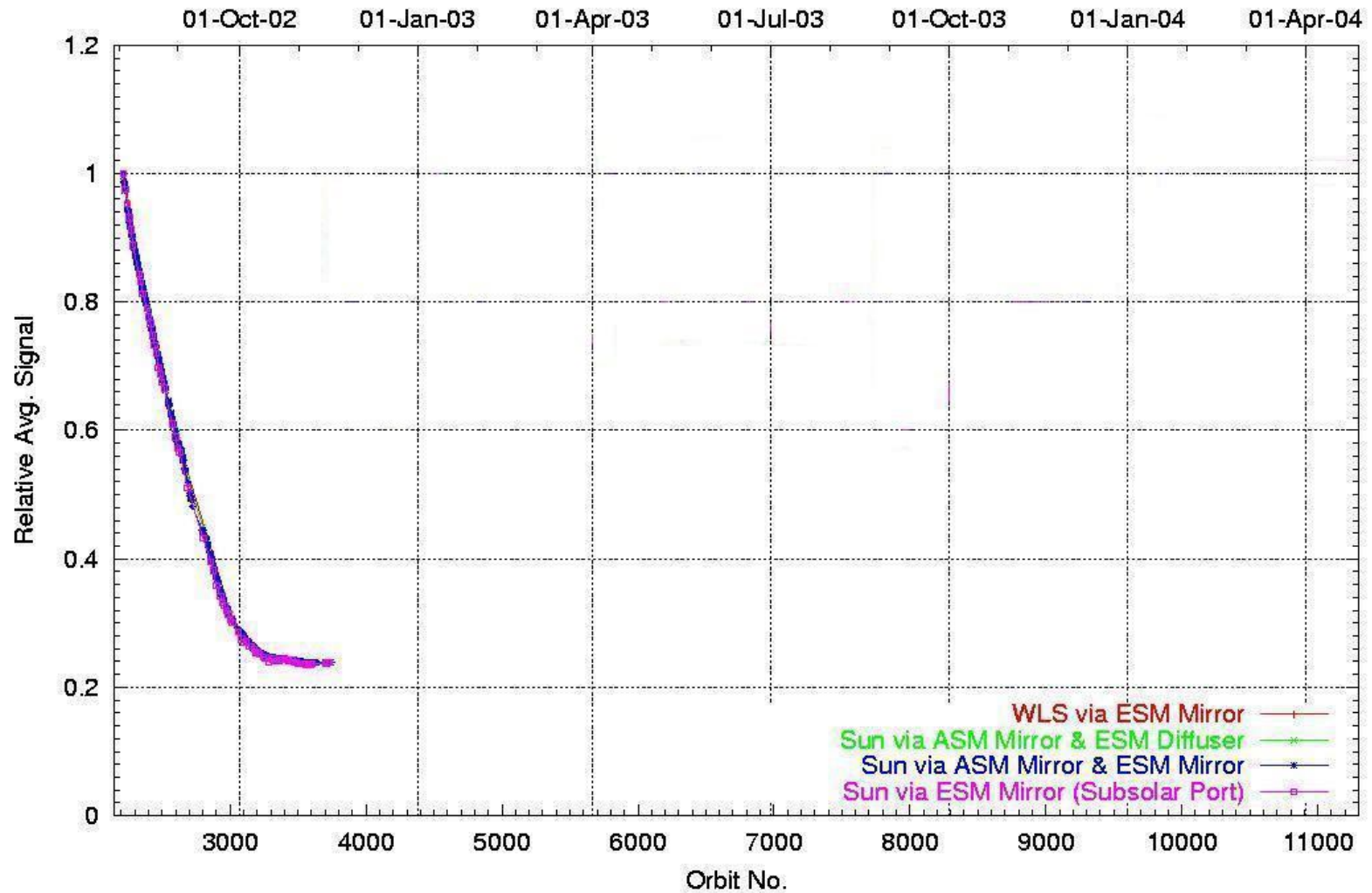
Year	Nominal Measurement	Decontamination (Reduced Measurement)	ENVISAT off or OCM	SCIAMACHY off
2002	74%	12%	7%	6%
2003	82%	10%	4%	4%
2004	94%	3%	1%	2%

2. Performance

- **Anomaly reports tracked by DLR**
(instrument performance related)
- **Total number of anomaly reports: 43**
- **Open anomaly reports: 9**

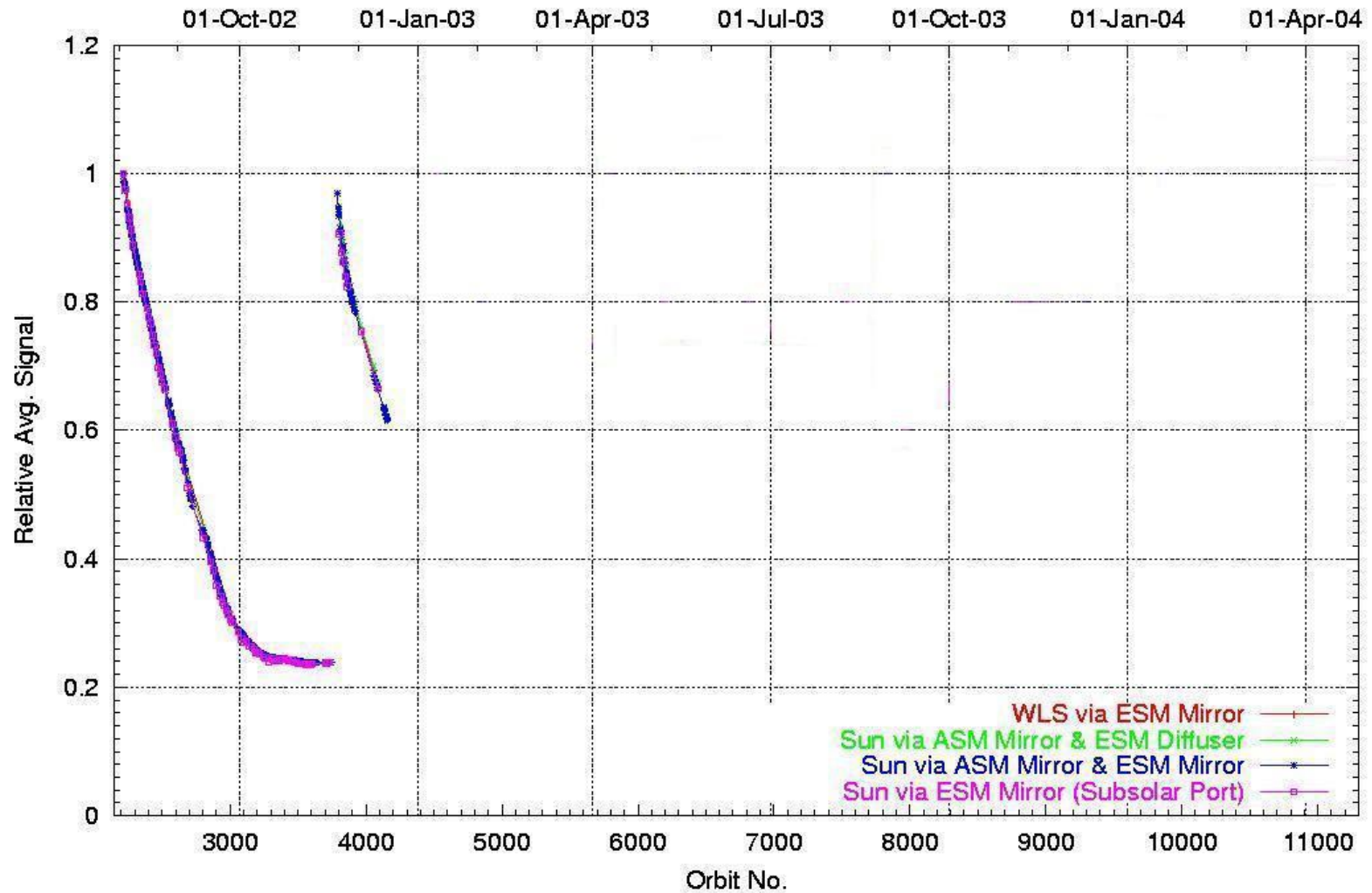
- **Most important: Humidity in channel 7 & 8**
Stray light in channel 7

SCIAMACHY Light Path Monitoring Results, Channel 7



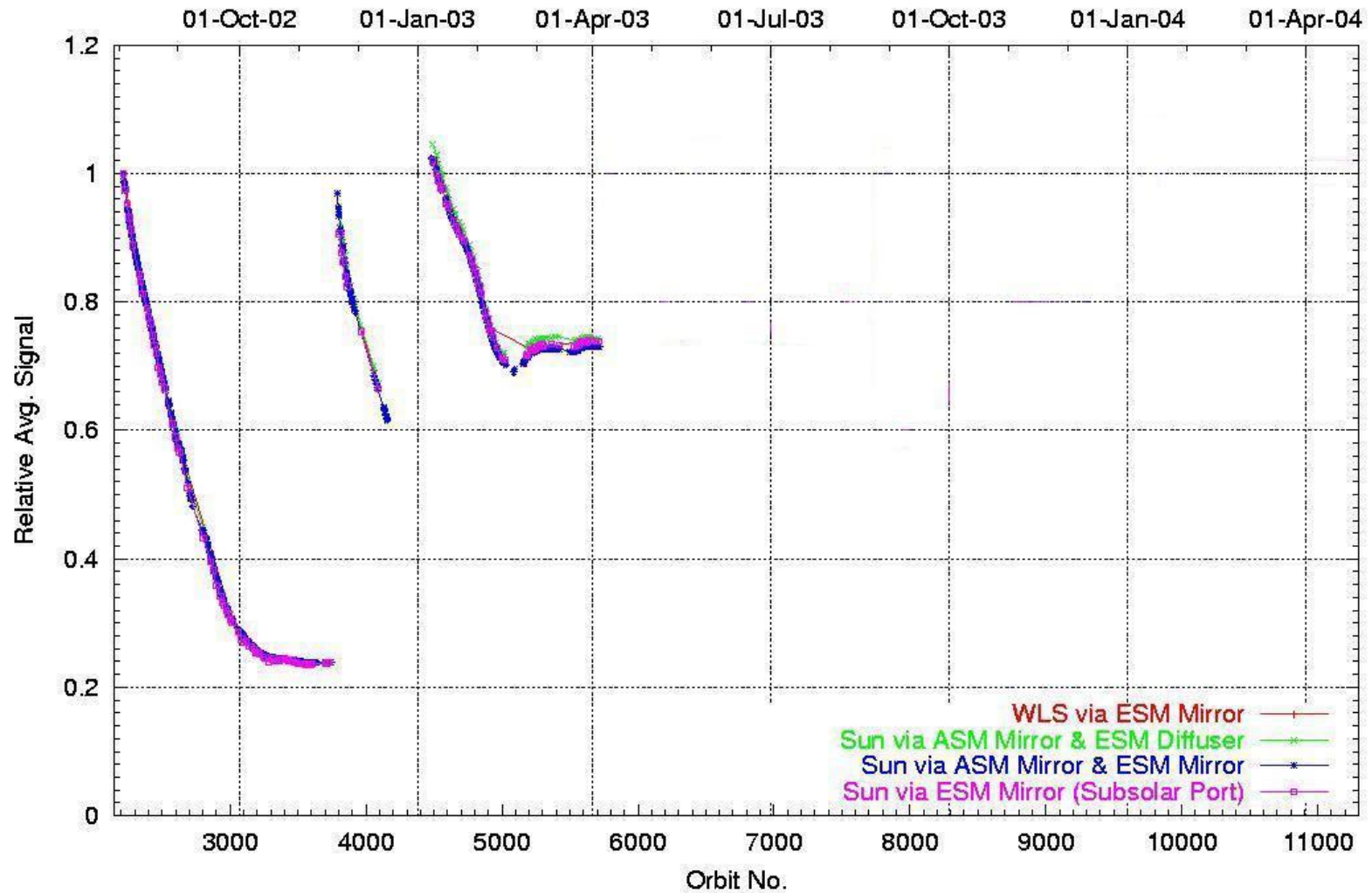
prod. 26-Apr-2004 by SOST-IFE (Stefan.Noel@iup.physik.uni-bremen.de)

SCIAMACHY Light Path Monitoring Results, Channel 7



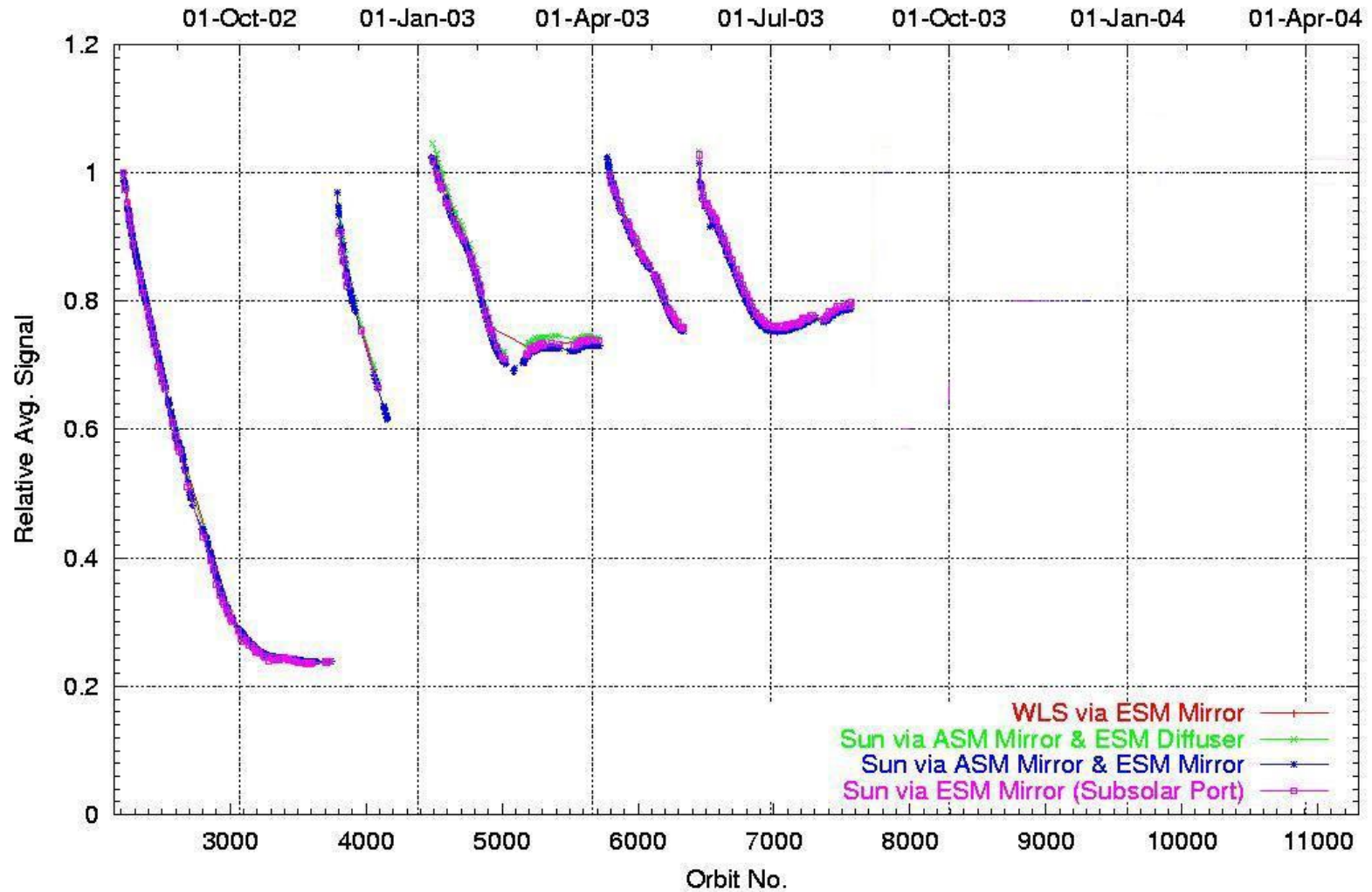
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SCIAMACHY Light Path Monitoring Results, Channel 7



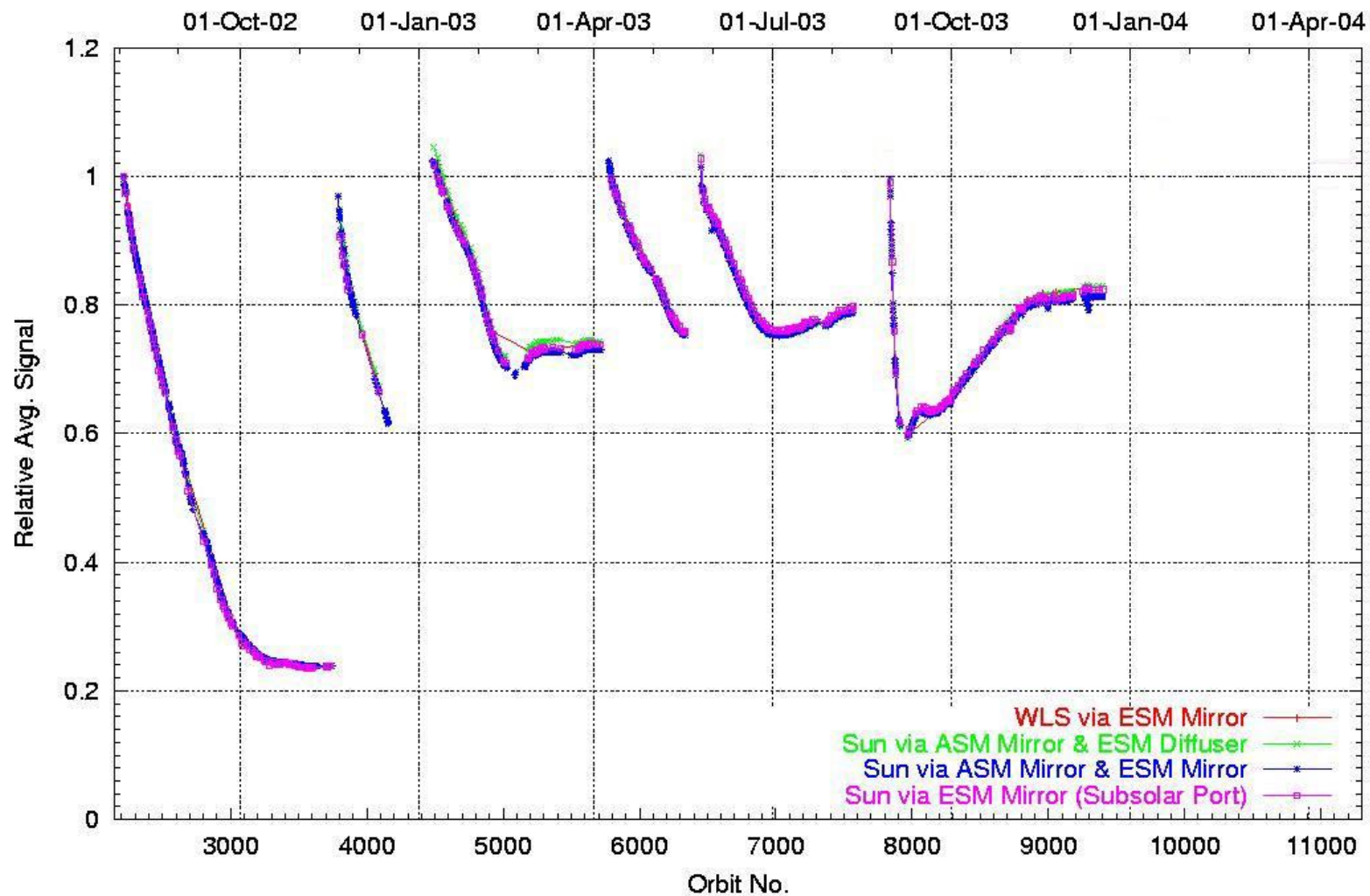
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SCIAMACHY Light Path Monitoring Results, Channel 7



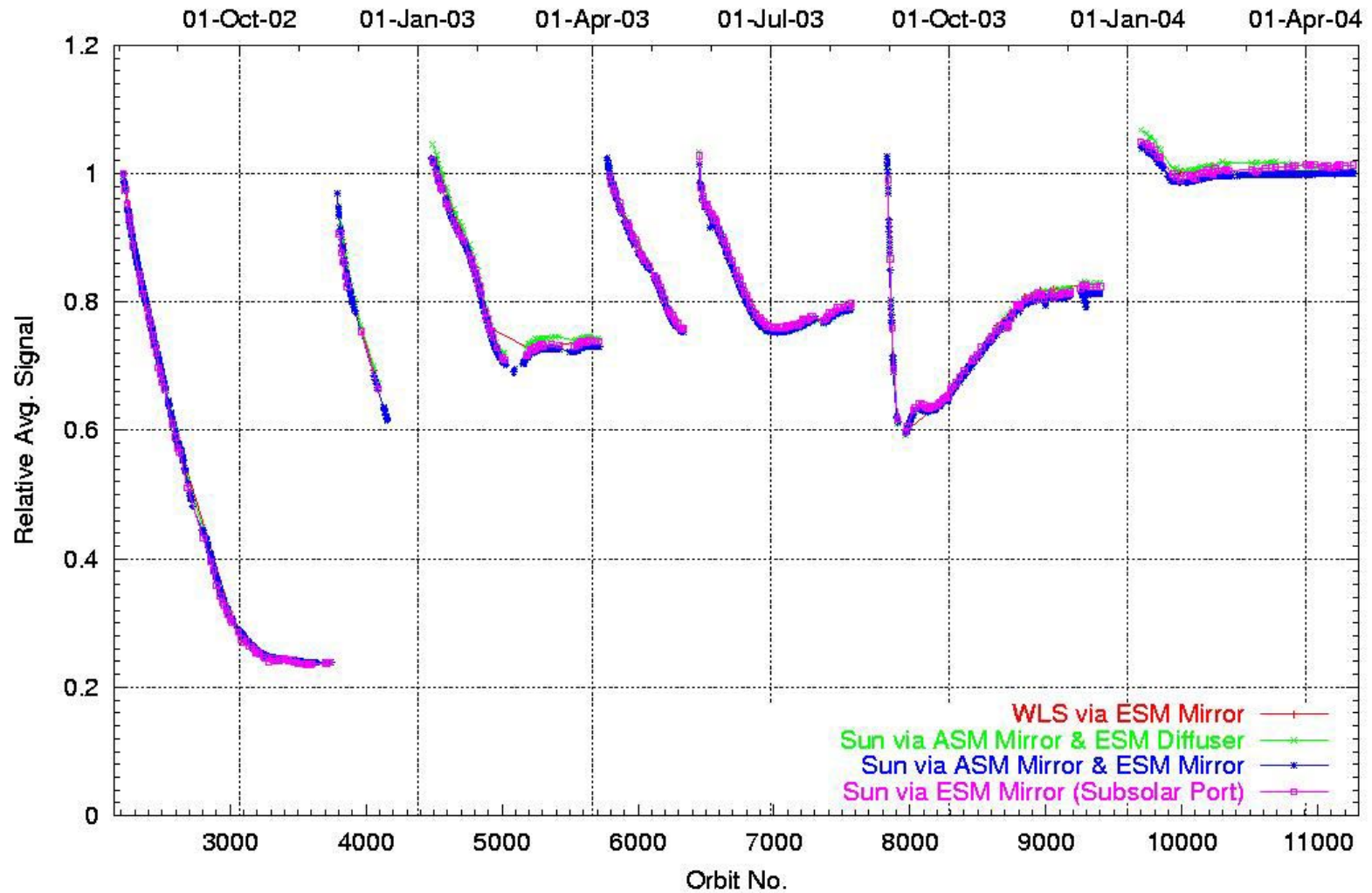
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SCIAMACHY Light Path Monitoring Results, Channel 7



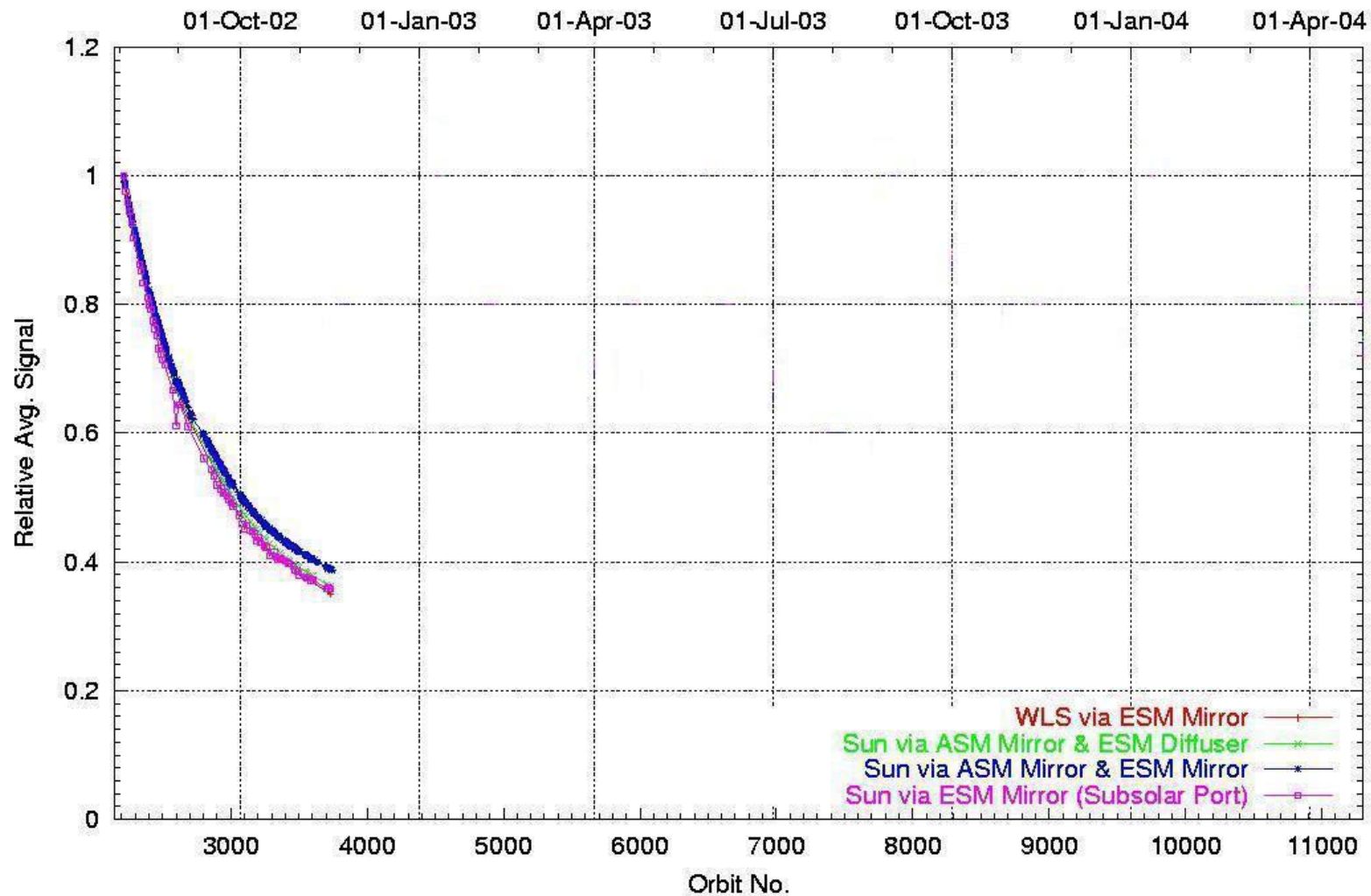
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SCIAMACHY Light Path Monitoring Results, Channel 7



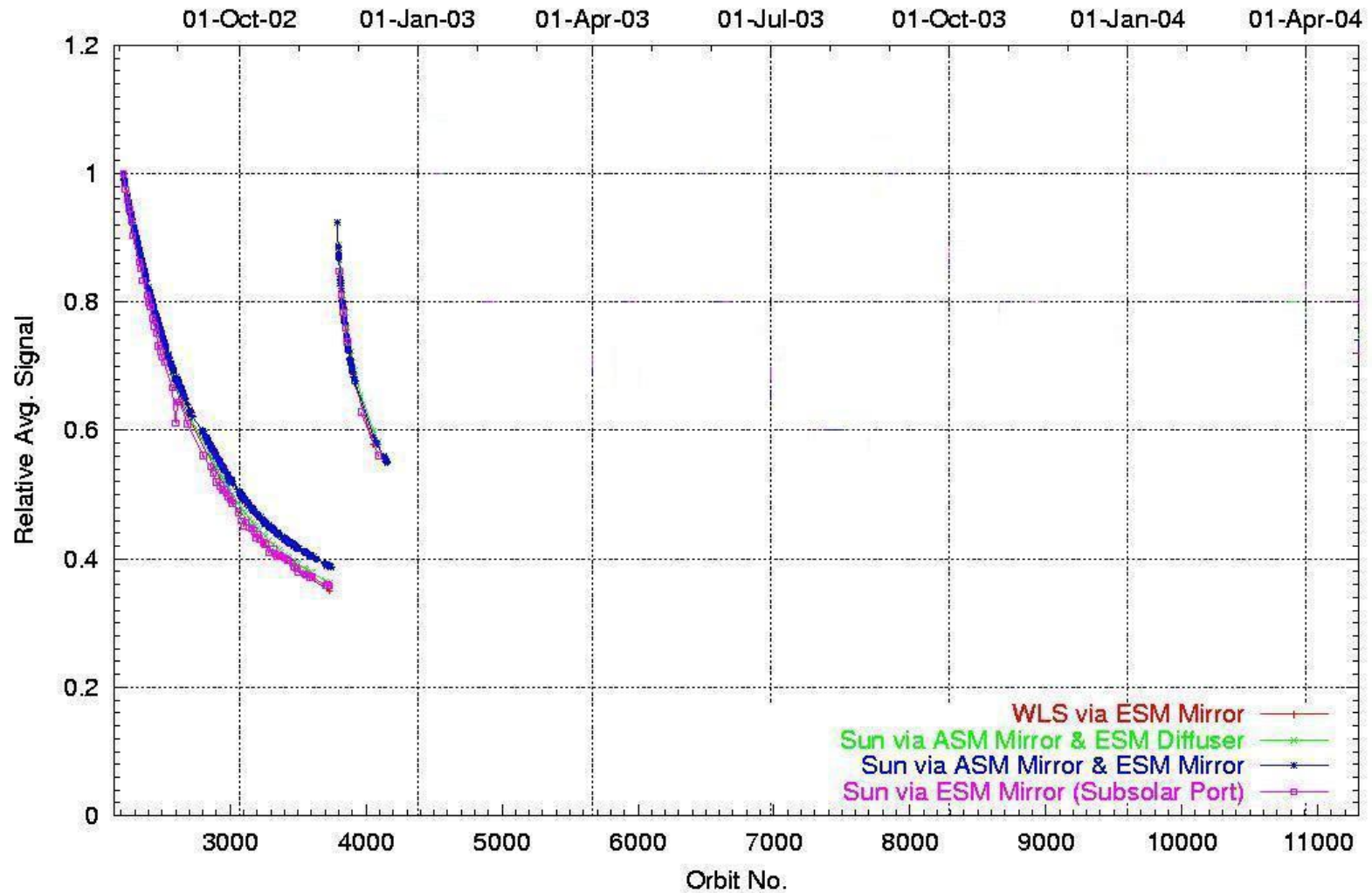
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SCIAMACHY Light Path Monitoring Results, Channel 8



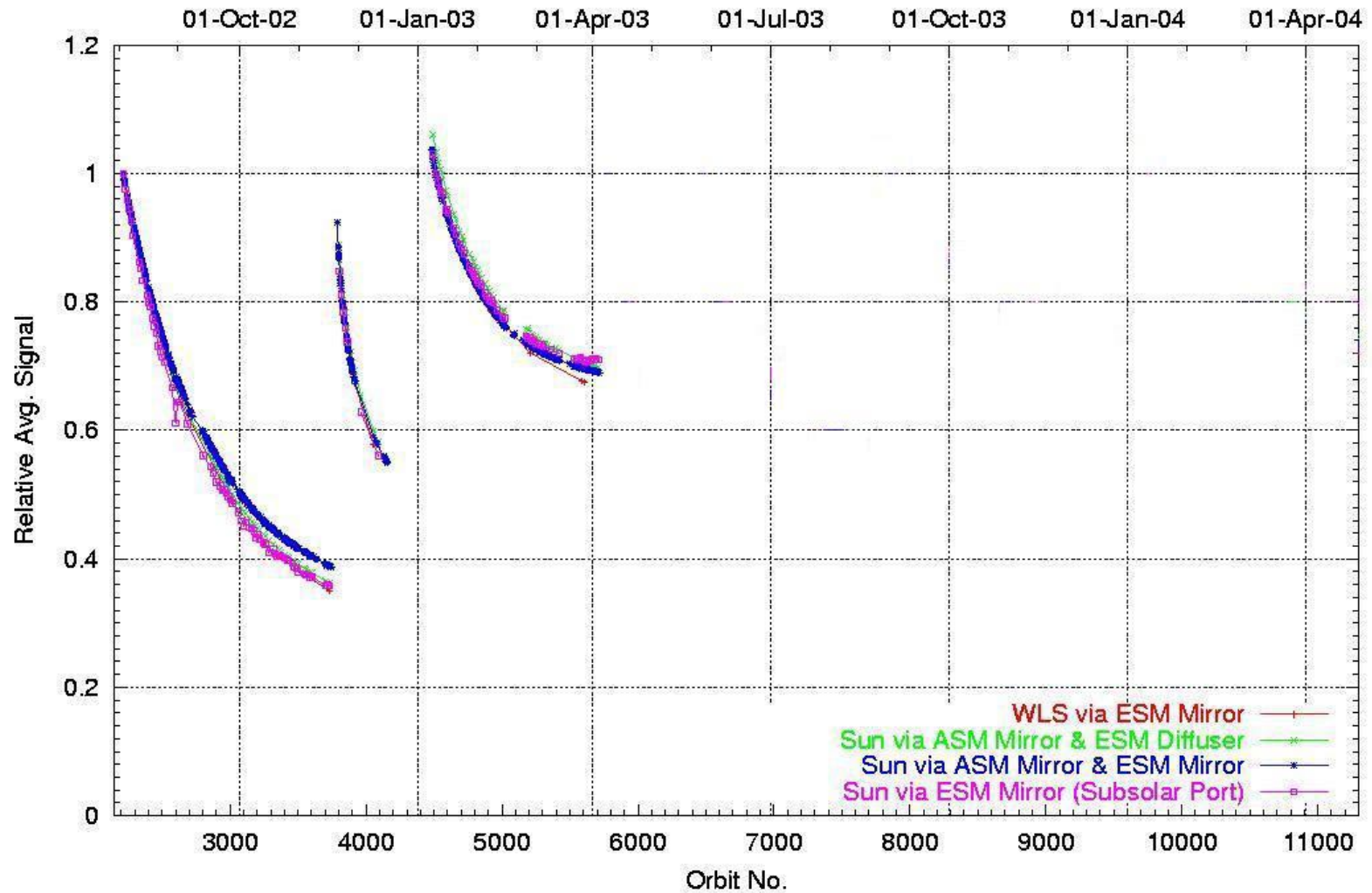
prod. 28-Apr-2004 by SOST-IFE (Stefan.Noel@iup.physik.uni-bremen.de)

SCIAMACHY Light Path Monitoring Results, Channel 8



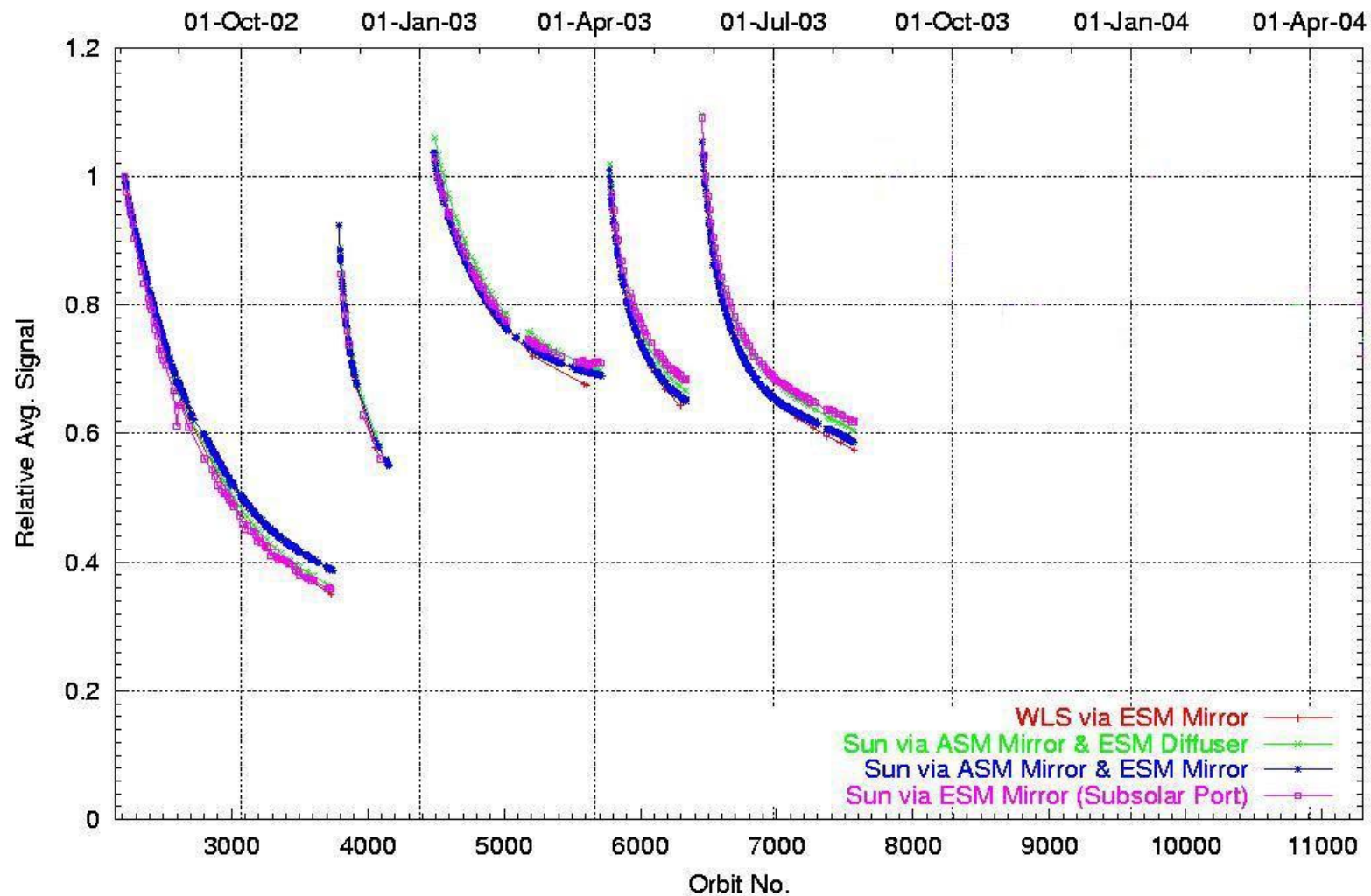
prod. 28-Apr-2004 by SOST-IFE (Stefan.Noel@iup.physik.uni-bremen.de)

SCIAMACHY Light Path Monitoring Results, Channel 8



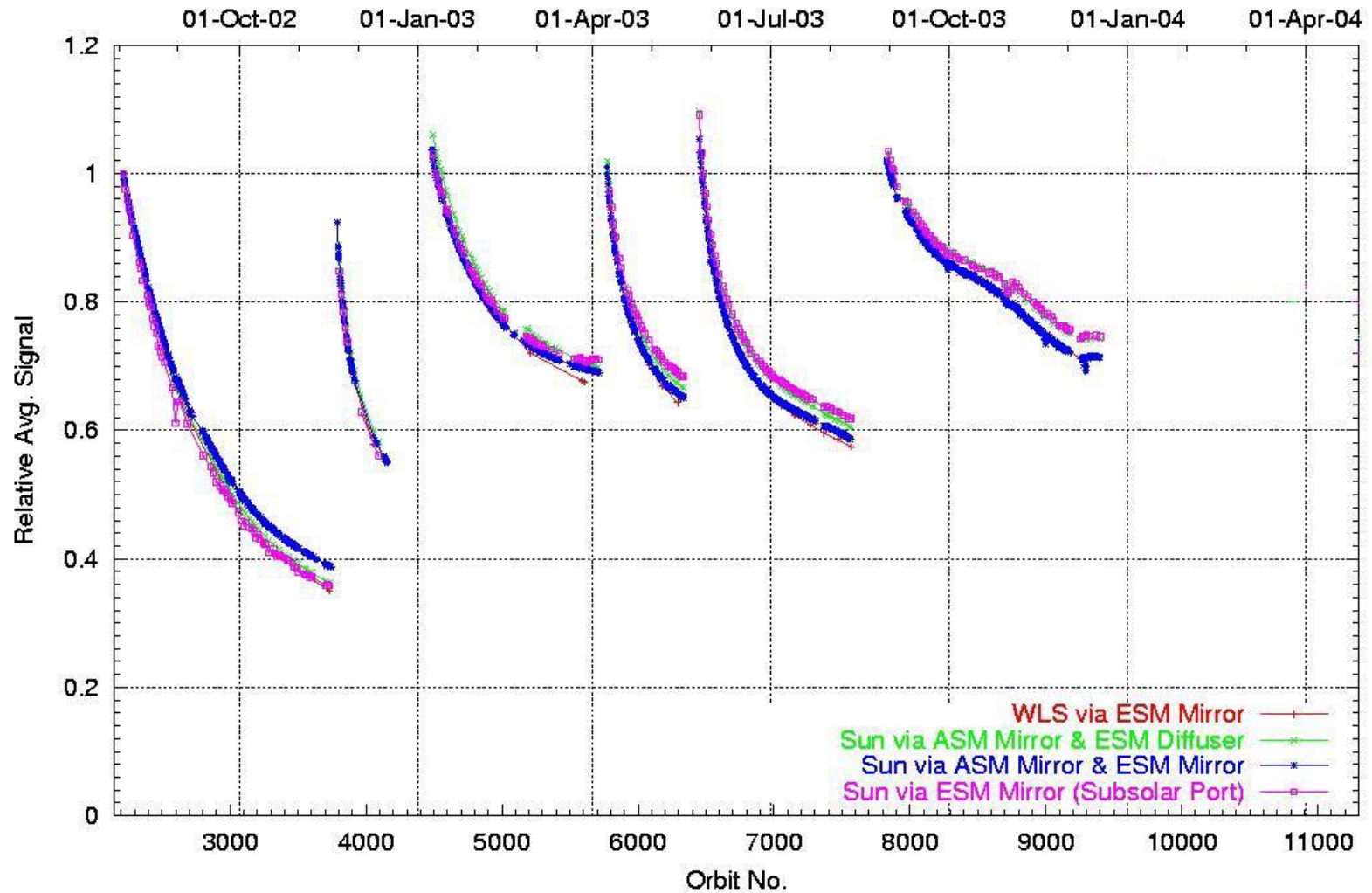
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SCIAMACHY Light Path Monitoring Results, Channel 8



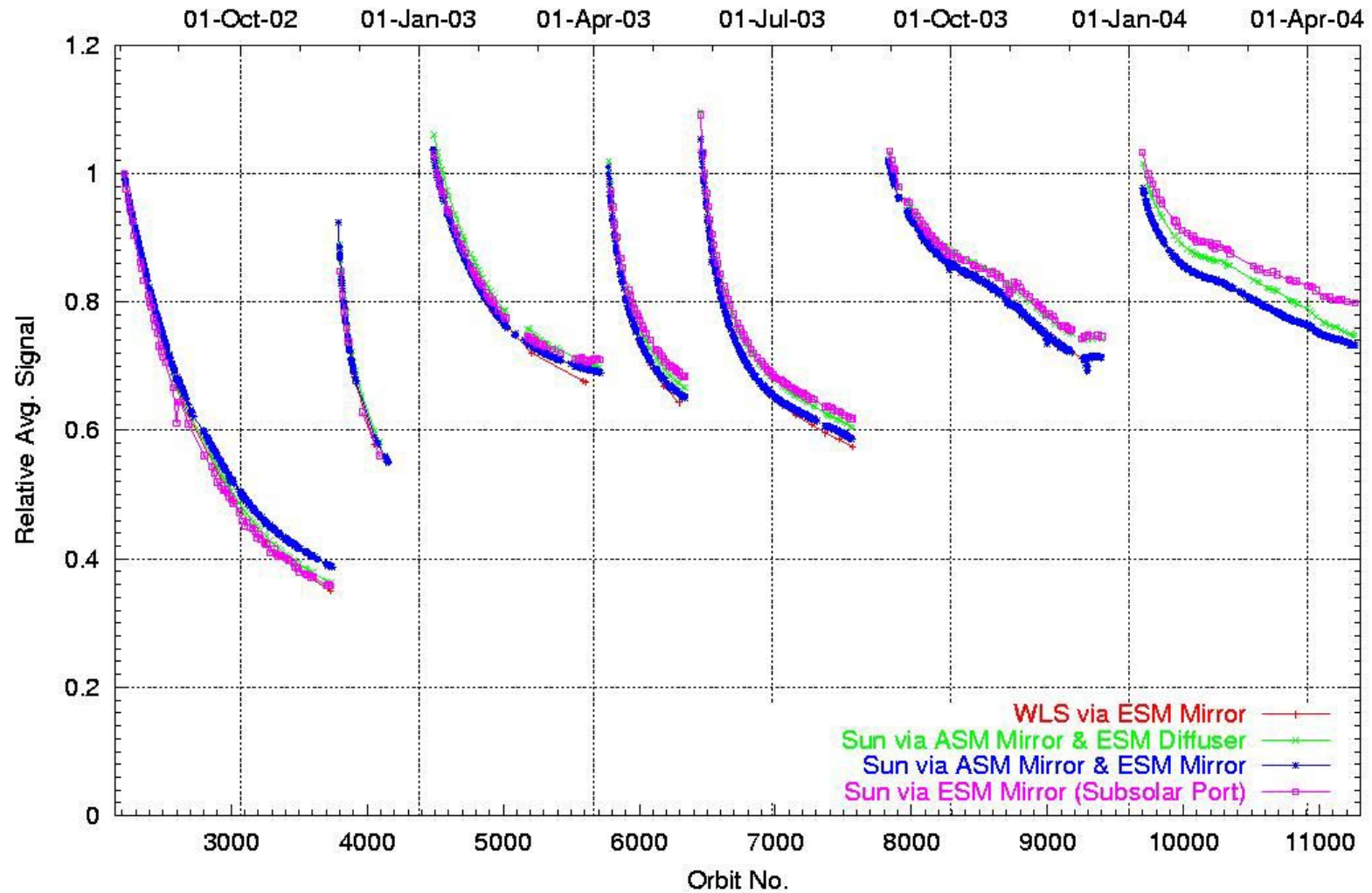
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SCIAMACHY Light Path Monitoring Results, Channel 8



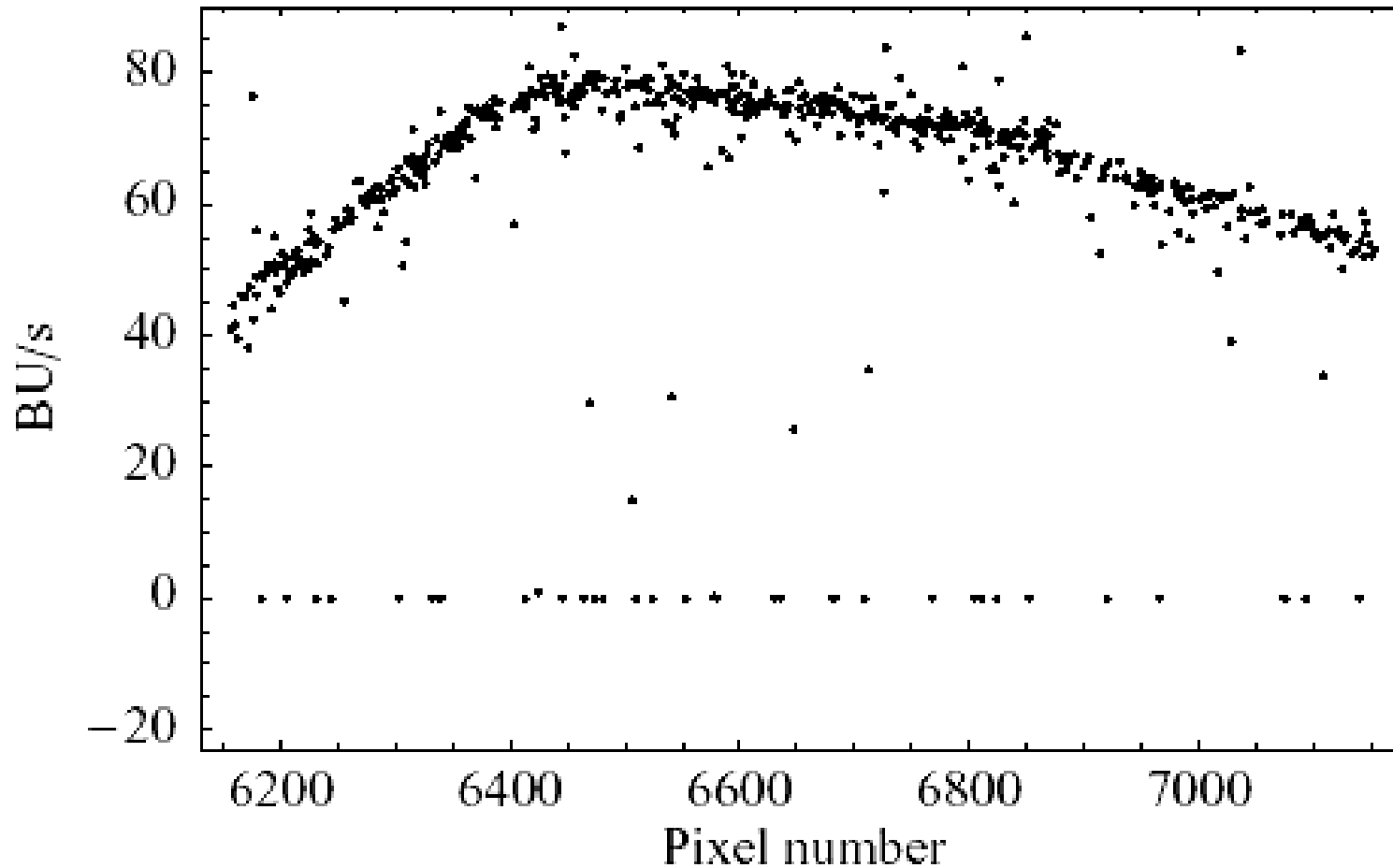
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2.1 Transmission in Channel 7 & 8

- Humidity has been reduced by decontaminations in 2002 & 2003
- Further improvements by **2 decontamination a year**
(next decontamination in June 2004)
- ESA will flag L 1 data from the next processor upgrade on
- ESA will process L2 data of the decontamination periods
only on request
- Correction to be implemented in data processing
transmission correction is under preparation
line width correction still to be investigated

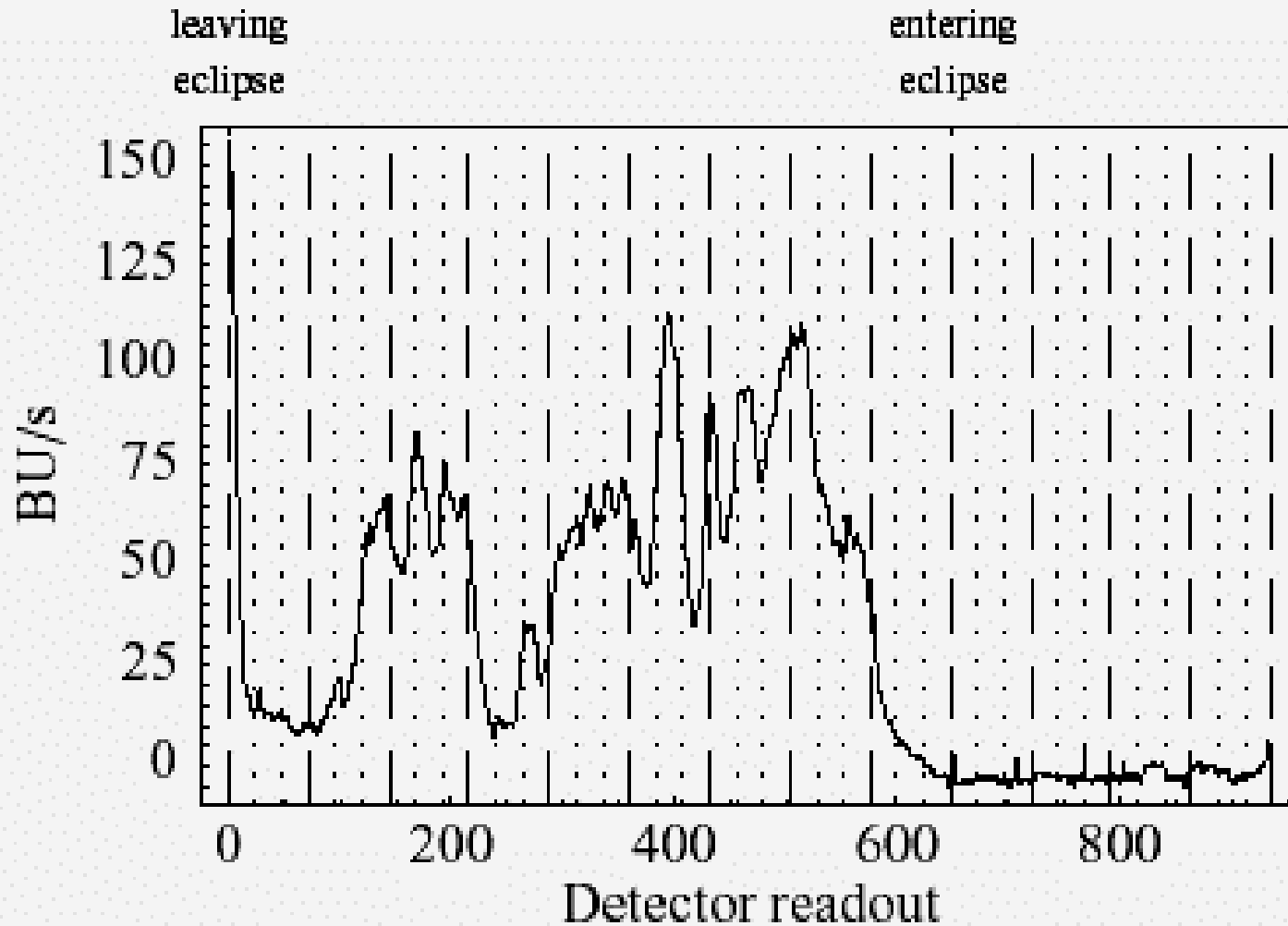
2.2 Stray Light in Channel 7

Mean detector signal from readouts 150 to 650



Results from IFE, J. Skupin

2.2 Stray Light in Channel 7



Results from IFE, J. Skupin

2.2 Stray Light in Channel 7

- **The stray light signal in channel 7 has only a weak wavelength dependency => assumption: it can be corrected .**
- **Analysis is ongoing:**
 - i) To correct the effects based on the dark measurements at the end of the limb states**
 - ii) To correct the signal based on measurements based on Channel 6 and 8. (non linearity and dark current have to be corrected first)**

3. Operation Changes

- **States, timelines etc. have been frozen in January 2003**
(end of Commissioning Phase)
- **Operational changes will only be implemented via the**
Operation Change Requests Procedure
- **Status of OCRs:**
 - 13 OCRs are implemented**
 - 1 OCR is withdrawn**
 - 2 OCRs are open**

4. Processing Changes

- Future changes in the processing including

L0->1b processor, L1b-> L2 processor

Key data IECF

will only be implemented via the

Processing Change Requests Procedure

- Several PCRs are defined or in preparation.
- Results of this Validation review, which should be considered in the processing may lead to further PCRs.

PCR form sheet available from DLR, Ch. Chlebek!