

 SCIAMACHY	<h1>Operation Change Request</h1>		OCR No: 023 Issue: A
Title: Improve nadir coverage for the Cabauw campaign.			
<u>Description of Request:</u> From May 8 to June 30, a validation campaign at Cabauw/The Netherlands (long = 4.927° east, lat = 51.97° north) is scheduled. It focuses on tropospheric NO ₂ . In order to get additional information from SCIAMACHY nadir measurements, we request to adjust SCIAMACHY mission planning such that maximum coverage at Cabauw is obtained.			
Originator: A. Piters/ KNMI	Date of Issue: 11 March 2005	Signature: e-mail 11 March 2005	
<u>Assessment of SSAG (necessary for requests by scientists):</u> The above given request is strongly supported.			
SSAG: H. Bovensmann	Date: 22.3.2005	Signature: e-mail, 22.3.2005	
Classification of OCR:			
<u>OCR Analysis (incl. Implementation Option):</u> This OCR could be implemented either by having nadir only measurements in orbits crossing Cabauw or by finetuning the execution of sequence 1/sequence 2 timelines. Since the first option would cause to get no limb measurements over the complete orbit, we propose to implement the second option, which has less impact on mission scenarios. In the second option, SOST will run the planning process twice. If Cabauw coverage orbits (see list attached) do not show a nadir state over central Netherlands, the planned limb/nadir sequence will be exchanged by using the timeline with the opposite limb/nadir sequence. This gives a high probability for Cabauw coverage. The only minor drawback would be that such orbits modify the sequence 1/sequence 2 pattern of nadir and limb states.			
SOST: M. Gottwald, DLR-IMF (ESA, Industry if necessary)	Date: 11/03/2005	Signature: via e-mail 11/03/2005	
<u>Approval of Proposed Implementation:</u>			
Originator Approval: Option 2, A. Piters	Date: 14.3.2005	Signature: e-mail, 14.3.2005	
SSAG Approval: Option2, H. Bovensmann	Date: 22.3.2005	Signature: e-mail, 22.3.2005	
<u>Decision / Approval:</u>			
The option 2 shall be implemented.			
DLR Approval: Ch. Chlebek	Date: 23.3.2005	Signature: e-mail, 23.3.2005	
<u>Implementation by SOST :</u> In the OSDFs for the period May 1 st – May 31 st and June 1 st – June 30 th the timelines in the Cabauw relevant orbits will include the limb/nadir sequence which provides maximum coverage at Cabauw. This is ensured by running SOST's simulation of the mission planning schedule twice, identify cases where the sequence is unsuitable and exchange the sequence by the opposite limb/nadir sequence. Only for orbits in the monthly lunar visibility window (about 3 orbits each month) this approach is not feasible because only one sequence exists. Cabauw relevant orbits are those listed in the annex. The planning for the period May 1 st – May 31 st following to this scheme is just under preparation and will be submitted to FOCC within the next two weeks.			
SOST: M. Gottwald, DLR-IMF	Date: 23/03/2005	Signature: via e-mail 23/03/2005	

Orbits over Cabauw (Nadir Swath +/- 480 km)		
Time: 08-MAY-2005/30-JUN-2005		
Orbit	Longitude (ANX)	ANX (UTC)
16667	173.3	08-MAY-2005 10:26:47
16681	181.2	09-MAY-2005 09:55:10
16695	189.1	10-MAY-2005 09:23:33
16724	179.8	12-MAY-2005 10:00:55
16738	187.7	13-MAY-2005 09:29:18
16767	178.3	15-MAY-2005 10:06:40
16781	186.2	16-MAY-2005 09:35:03
16810	176.9	18-MAY-2005 10:12:25
16824	184.8	19-MAY-2005 09:40:48
16853	175.5	21-MAY-2005 10:18:10
16867	183.4	22-MAY-2005 09:46:33
16881	191.3	23-MAY-2005 09:14:56
16896	174.0	24-MAY-2005 10:23:55
16910	181.9	25-MAY-2005 09:52:18
16924	189.8	26-MAY-2005 09:20:41
16953	180.5	28-MAY-2005 09:58:03
16967	188.4	29-MAY-2005 09:26:25
16996	179.1	31-MAY-2005 10:03:47
17010	187.0	01-JUN-2005 09:32:10
17039	177.6	03-JUN-2005 10:09:32
17053	185.5	04-JUN-2005 09:37:55
17082	176.2	06-JUN-2005 10:15:17
17096	184.1	07-JUN-2005 09:43:40
17139	182.6	10-JUN-2005 09:49:25
17153	190.6	11-JUN-2005 09:17:48
17182	181.2	13-JUN-2005 09:55:10
17196	189.1	14-JUN-2005 09:23:33
17225	179.8	16-JUN-2005 10:00:55
17239	187.7	17-JUN-2005 09:29:18
17268	178.3	19-JUN-2005 10:06:40
17282	186.2	20-JUN-2005 09:35:03
17311	176.9	22-JUN-2005 10:12:25
17325	184.8	23-JUN-2005 09:40:48
17368	183.4	26-JUN-2005 09:46:33
17411	181.9	29-JUN-2005 09:52:18
17425	189.8	30-JUN-2005 09:20:41

Table: ENVISAT orbits with nadir ground pixel coverage at Cabauw