

	<h1>Operation Change Request</h1>		OCR No: 034
			Issue: A
Title: Improved Limb coverage for the Teresina balloon campaign			
<u>Description of Request:</u> In the period 12 May 2008 to 06 June 2008, a balloon campaign will be performed in Teresina, Brazil, 05°03' S, 42°29' W. ESA is supporting the campaign for the validation of ENVISAT products. The balloon payloads include SOLOMON, LPMA/DOAS, SPIRALE, and MIPAS. The data from the measurements can be used for the validation of SCIAMACHY products, in particular the Limb retrievals. During the validation meeting 22 January 2008, SCIAVALIG supported the proposal to support this campaign as source of validation information for SCIAMACHY In order to achieve an optimal coverage during the campaign period, it is requested to adjust the SCIAMACHY mission planning to have a maximum coverage of limb and nadir states over Teresina for the duration of the campaign. Note: Due to a shift in the balloon schedule this OCR shall be applicable for the time period 26 May to 30 June 2008.			
Originator: T. Fehr, ESA	Date of Issue: 30/01/08	Signature: via e-mail 30/01/08	
<u>Assessment of SSAG (necessary for requests by scientists):</u> The SCIAVALIG Meeting on January 22, 2008 recommended the investigation of the OCR.			
SSAG: H. Bovensmann	Date: 28.2.2008	Signature: e-mail, 28.2.2008	
Classification of OCR: D			
<u>OCR Analysis (incl. Implementation Option):</u> The implementation of this OCR requires planning optimization. The optimization occurs in the same way as for previous similar OCRs, i.e. SOST will run the planning process twice. If Teresina coverage orbits do not show a limb state over this site (note: due to the limb/nadir matching it is equivalent to get a nadir state over Teresina), the planned limb/nadir sequence will be exchanged by using the timeline with the opposite limb/nadir sequence. This gives a high probability for Teresina limb coverage. The only minor drawback is 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: 06/03/08	Signature: via e-mail 06/03/08	
<u>Approval of Proposed Implementation:</u>			
Originator Approval: T. Fehr	Date: 05/05/08	Signature: via e-mail 05/05/08	
SSAG Approval: H. Bovensmann	Date: 11/03/08	Signature: via e-mail 11/03/08	
<u>Decision / Approval:</u> The OCR shall be implemented as proposed. If Possible the schedule for the implementation shall be adapted (see e-mail T. Fehr, 5.5.08)			
DLR Approval: Ch Chlebek	Date: 09/05/08	Signature: via e-mail 09/05/08	

Implementation by SOST:

In the OSDF for the period May 26th – June 30th the timelines in the Teresina relevant orbits include the limb/nadir sequence which provides maximum coverage at Teresina. This is ensured by having run SOST's simulation of the mission planning schedule twice, having identified cases where the sequence was unsuitable and exchanged the sequence by the opposite limb/nadir sequence. In total 34 orbits have been identified with fair to good Teresina coverage. They are listed in the annex. Due to Teresina's close location at the equator, Teresina overpasses occur about 3040 sec after ANX.

The planning for the period June 1st – June 30th has been updated to reflect the modified balloon campaign schedule (original OSDF 34_20 was sent to RGT end of April) on May 8th by submitting the modified OSDF 34_21 to RGT.

SOST: M. Gottwald, DLR-IMF

Date: 08/05/08

Signature: via e-mail 08/05/08

Orbits over Teresina (Nadir Swath +/- 480 km)		
Time: 12-MAY-2005/30-JUN-2008		
Orbit	Longitude (ANX)	ANX (UTC)
32428	148.9	13-MAY-2008 12:04:31
32442	156.7	14-MAY-2008 11:32:54
32471	147.4	16-MAY-2008 12:10:15
32485	155.3	17-MAY-2008 11:38:38
32514	146.0	19-MAY-2008 12:16:00
32528	153.9	20-MAY-2008 11:44:23
32557	144.5	22-MAY-2008 12:21:45
32571	152.4	23-MAY-2008 11:50:08
32585	160.3	24-MAY-2008 11:18:31
32614	151.0	26-MAY-2008 11:55:53
32628	158.9	27-MAY-2008 11:24:16
32643	141.6	28-MAY-2008 12:33:15
32657	149.5	29-MAY-2008 12:01:38
32671	157.4	30-MAY-2008 11:30:01
32700	148.1	01-JUN-2008 12:07:23
32714	156.0	02-JUN-2008 11:35:46
32729	138.8	03-JUN-2008 12:44:45
32743	146.7	04-JUN-2008 12:13:08
32757	154.6	05-JUN-2008 11:41:31
32786	145.2	07-JUN-2008 12:18:53
32800	153.1	08-JUN-2008 11:47:16
32829	143.8	10-JUN-2008 12:24:38
32843	151.7	11-JUN-2008 11:53:01
32857	159.6	12-JUN-2008 11:21:24
32886	150.3	14-JUN-2008 11:58:46
32900	158.2	15-JUN-2008 11:27:09
32929	148.8	17-JUN-2008 12:04:31
32943	156.7	18-JUN-2008 11:32:54
32972	147.4	20-JUN-2008 12:10:15
32986	155.3	21-JUN-2008 11:38:38
33015	146.0	23-JUN-2008 12:16:00
33029	153.9	24-JUN-2008 11:44:23
33058	144.5	26-JUN-2008 12:21:45
33072	152.4	27-JUN-2008 11:50:08
33086	160.3	28-JUN-2008 11:18:31
33115	151.0	30-JUN-2008 11:55:53

Table: ENVISAT orbits with good to fair nadir ground pixel coverage at Teresina