Technical note on Gamsberg Namibian site [1]

Part III: Seeing and Meteorology

Preliminary Results, M. Sarazin, March 29, 1995

[1]Belong to this series:
Part I: General Climatology, 11 pages, April 24, 1994
Part IIa: I.R. Quality, Upper-Air data, 14 pages, July 11, 1994 (+ erratum Aug. 3)
Part IIb: I.R. Quality, Water Vapour Monitoring, 4 pages, first issue September 23, 1994
Part IIIa: Seeing and Meteorology, Preliminary Results, 12 pages, this update March 29, 1995
Part IIIb: Seeing and Meteorology, Ground Level Turbulence, 8 pages, September 28, 1994

Ref: MS/ November 18, 1997,

Monthly Quick Look on Site Monitoring Data
GAMSBERG (NAMIBIA) 2350m
$16^o 2' E$, $23^o 3' S$

J U L Y 1994 (partial)

night quality (Phot., Cloudy, Overcast) is given in the scintillation column. Scintillation is only measured on Photometric sky

. The seeing is measured at 2 m above ground. The averages correspond to the total measurement duration in the night (given in hours).

	10 min. exposure FWHM at 0.5 μ				Scintillation	Wind at 2 m		Temp.	RH
date	min.	mean (")	max.	hours	Index	Dir.	Speed (m/s)	C	%
					Observer: Marc Sarazin				
13to14	Transport Windhoek-Gamsberg								
14to15	Installation				**P**				
15to16	Installation				**P**				
16to17	Installation				**P**				
17to18	Technical Time				**P**				
18to19	Technical Time				**P**				
19to20	Technical Time				**P**				
20to21	Technical Time				**P**				
21to22	1.38	2.3	3.2	2	**P**/high	E	1	5	30
22to23	0.80	1.0	1.5	6	**P**/low	E	1	10	20
	0.55	0.6	0.7	2	**P**/low	NNW	3		
23to24	0.42	0.6	1.1	10	**P**/low	NNW	7	7	25
24to25	Rain then High humidity				**P**	E	10	-2	80
25to26	2.84	3.6	4.3	5	**P**/high	E	10	0	70
26to27	1.30	2.7	4.6	4	**P**/high	E	10	2	60
					Observer: Julio Navarrete				
27to28	2.06	3.2	4.6	10	**P**/high	E	10	4	50
28to29	1.23	2.3	3.2	11	**P**/medium	NNE	7	8	38
29to30	0.67	1.3	2.4	11	**P**/medium	N	5	8	50
30to31	0.66	1.2	2.7	11	**P**/low	NNW	4	8	50
Summary	0.4	1.58		47	Phot. Nights 100%				

A U G U S T 1994

night quality (Phot., Cloudy, Overcast) is given in the scintillation column. Scintillation is only measured on Photometric sky

. The seeing is measured at 2 m above ground. The averages correspond to the total measurement duration in the night (given in hours).

	10 min. exposure FWHM at 0.5 μ				Scintillation	Wind at 2 m		Temp.	RH
date	min.	mean (")	max.	hours	Index	Dir.	Speed (m/s)	C	%
				Observer: Julio Navarrete					
31to01	0.51	1.3	3.3	11	**P**/low	N	1	10	40
01to02	0.65	1.2	2.4	11	**P**/low	S	2	11	35
02to03	0.62	1.5	2.1	11	**P**/medium	SE	2	11	31
03to04	0.66	1.5	2.4	11	**P**/medium	E	2	11	30
04to05	0.61	1.0	1.3	11	**P**/low	WSW	2	11	27
05to06	0.74	1.2	2.2	8	**P**/high	W	4	12	25
06to07	0.45	0.7	0.9	5	**P**/high	NW	7	11	38
07to08	0.46	1.0	1.7	11	**P**/high	W	5	7	15
08to09	0.93	2.2	3.8	11	**P**/medium	E	4	8	25
09to10	0.66	1.1	2.7	11	**P**/low	SW	3	9	20
10to11	0.73	1.7	3.0	11	**P**/low	E	7	12	20
11to12	0.50	0.7	1.3	11	**P**/low	NNW	8	14	12
12to13	0.46	0.7	1.1	11	Cloudy	NNW	7	13	12
13to14	0.73	3.3	5.4	11	**P**/low	E	7	6	30
14to15	0.83	1.7	2.5	11	**P**/low	E	6	11	16
15to16	0.48	1.2	2.1	11	Cloudy	W	6	9	8
16to17	0.86	1.6	3.4	10	Cloudy	Calm		8	12
				Observer: Marc Sarazin					
17to18	0.63	1.0	1.8	11	**P**/low	WNW	2	11	9
18to19	0.68	1.1	1.6	11	**P**/medium	W	1	11	9
19to20	1.00	2.4	5.5	11	**P**/medium	E	2	5	50
20to21	2.71	4.1	5.3	10	**P**/low	E	8	3	50
21to22	0.86	1.4	2.2	11	**P**/medium	NE	5	10	17
22to23	0.58	0.9	1.5	8	**P**/medium	NW	3	11	30
23to24	0.63	1.1	3.1	11	**P**/medium	NW	2	12	26
24to25	1.01	1.4	2.0	8	**P**/high	E	4	13	38
25to26	0.79	1.4	2.0	11	**P**/high	E	5	14	25
26to27	0.87	1.4	2.0	11	**P**/low	ENE	4	14	20
				Observer: Rolf Lengenfelder					
27to28	0.85	1.2	2.4	11	**P**/low	ENE	6	13	16
28to29	0.79	1.1	1.6	11	**P**/low	E	5	14	14
29to30	0.82	1.2	1.6	11	**P**/medium	NNE	5	14	16
30to31	0.77	1.3	1.8	11	**P**/medium	NE	4	14	20
Summary	0.4	1.29		270	Phot. Nights 90%				

S E P T E M B E R 1994

night quality (Phot., Cloudy, Overcast) is given in the scintillation column. Scintillation is only measured on Photometric sky

. The seeing is measured at 2 m above ground. The averages correspond to the total measurement duration in the night (given in hours).

	10 min. exposure FWHM at 0.5 μ				Scintillation	Wind at 2 m		Temp.	RH
date	min.	mean (")	max.	hours	Index	Dir.	Speed (m/s)	C	%
Observer: Rolf Lengenfelder									
00to01	0.69	1.2	2.3	11	**P**/low	W	2	12	22
01to02	0.66	1.0	1.4	11	**P**/medium	W	2	13	20
02to03	0.86	1.5	3.6	11	**P**/high	N	2	14	23
03to04	0.64	1.0	2.3	11	**P**/medium	N	4	15	20
04to05	0.89	1.2	2.1	11	**P**/medium	NW	2	15	20
05to06	0.69	1.1	1.9	11	**P**/high	NNE	3	16	24
06to07	0.50	0.6	0.7	2	Cloudy	W	5	15	27
07to08	0.60	1.5	4.6	5	Cloudy	SE	4	13	30
08to09	1.27	1.5	1.8	1	Cloudy	E	8	14	29
09to10	0.89	1.2	1.7	3	Cloudy	NE	4	16	28
10to11	0.47	0.8	1.4	11	**P**/low	NW	3	14	37
11to12	0.56	0.8	1.1	3	Cloudy	NW	4	13	39
12to13	0.80	1.4	2.5	11	**P**/medium	N	3	11	19
13to14	0.97	2.3	3.9	11	Cloudy	ESE	4	12	21
14to15	0.80	1.2	1.8	11	**P**/medium	SE	4	16	19
15to16	0.57	0.9	1.2	11	Cloudy	SW	4	16	15
16to17				0	Overcast	SW	4	15	21
17to18	0.54	0.8	1.5	9	Cloudy	SW	2	15	9
18to19	0.69	1.4	2.8	9	Cloudy	NNE	3	16	17
19to20	0.75	1.0	1.1	3	Overcast	E	2	17	23
20to21	0.68	1.1	1.5	7	Cloudy	E	3	19	20
21to22	0.55	1.1	1.8	4	Cloudy	WNW	3	19	21
22to23	0.50	0.9	2.2	7	Cloudy	WSW	7	16	22
23to24				0	Overcast		3	16	20
24to25				0	Overcast		3	18	27
25to26				0	Overcast		2	19	28
26to27				0	Overcast		2	16	39
27to28	0.54	0.8	1.4	10	**P**/low	WNW	3	15	11
28to29	0.68	2.0	4.6	10	**P**/low	ESE	3	11	33
29to30	1.23	2.8	4.3	9	**P**/low	NNE	2	9	24
30to31									
Summary	0.4	1.18		188	Phot. Nights 40%				

O C T O B E R 1994

night quality (Phot., Cloudy, Overcast) is given in the scintillation column. Scintillation is only measured on Photometric sky

. The seeing is measured at 2 m above ground. The averages correspond to the total measurement duration in the night (given in hours).

	10 min. exposure FWHM at 0.5 μ				Scintillation	Wind at 2 m		Temp.	RH
date	min.	mean (")	max.	hours	Index	Dir.	Speed (m/s)	C	%
Observer: Rolf Lengenfelder									
00to01	0.76	1.5	3.0	5	**P**/medium	NW	1	13	25
01to02	0.41	0.6	0.9	6	Cloudy	WSW	4	14	31
02to03				0	Overcast		3	14	31
03to04	0.91	1.5	2.1	3	Cloudy	NW	2	12	37
04to05	0.59	0.9	1.2	8	**P**/medium	ENE	3	14	25
05to06	0.55	0.8	1.2	9	**P**/medium	S	4	15	21
06to07	0.65	0.8	1.0	7	**P**/medium	SSW	3	14	26
07to08	0.61	1.0	3.7	9	**P**/low	S	3	10	34
08to09	0.70	1.1	3.2	9	**P**/low	SE	2	12	34
09to10	0.77	1.2	2.1	9	**P**/low	SSE	4	12	52
10to11	0.67	1.0	1.7	9	**P**/medium	ESE	3	13	43
11to12	0.63	1.1	1.6	9	**P**/low	ESE	4	14	32
12to13	0.58	1.4	2.8	9	**P**/medium	E	7	14	24
13to14	0.60	1.0	1.9	9	Cloudy	SE	3	15	25
14to15	0.88	1.3	2.0	3	Cloudy	WNW	1	14	43
15to16	0.63	0.9	1.3	9	**P**/medium	SE	8	14	36
16to17	0.51	1.2	2.7	9	**P**/low	E	5	14	30
17to18	0.67	1.2	2.5	9	**P**/low	ENE	3	14	24
18to19	0.63	0.9	1.5	9	**P**/low	SW	3	13	31
19to20	0.55	0.9	1.7	9	**P**/medium	W	6	9	26
20to21	0.64	1.2	2.2	9	**P**/medium	SE	2	9	27
21to22	0.84	1.4	3.0	7	Cloudy	NW	3	10	32
22to23	0.65	1.0	1.8	8	Cloudy	SSE	6	14	28
23to24				0	Overcast	SE	6	18	26
24to25	0.47	0.9	1.6	7	Cloudy	ESE	5	17	34
25to26				0	Rain	N/E	3	13	74
26to27				0	Rain	N/SE	3	13	66
27to28				0	Storm	NNW	5	12	72
28to29	0.65	1.1	2.1	9	**P**/medium	SE	5	13	62
29to30	0.62	0.9	1.3	9	**P**/medium	SE	6	16	39
30to31	0.56	0.9	1.2	9	**P**/medium	SE	7	16	30
Summary	0.4	0.98		195	Phot. Nights 61%				

N O V E M B E R 1994

night quality (Phot., Cloudy, Overcast) is given in the scintillation column. Scintillation is only measured on Photometric sky

. The seeing is measured at 2 m above ground. The averages correspond to the total measurement duration in the night (given in hours).

	10 min. exposure FWHM at 0.5 μ				Scintillation	Wind at 2 m		Temp.	RH
date	min.	mean (")	max.	hours	Index	Dir.	Speed (m/s)	C	%
					Observer: Rolf Lengenfelder				
00to01	0.57	0.8	1.1	9	**P**/medium	ESE	7	16	27
01to02	0.69	1.1	2.4	8	**P**/high	ESE	7	12	62
02to03	0.64	0.9	1.7	3	Cloudy	SSW	2	11	75
03to04	0.61	1.0	1.6	9	**P**/medium	S	4	14	34
04to05	0.74	1.1	1.5	9	**P**/high	SSW	6	15	27
05to06	0.60	1.0	1.7	9	**P**/medium	WSW	4	15	21
06to07	0.54	0.9	1.6	9	**P**/low	W	5	18	10
07to08				0	Overcast	SW	3	17	17
08to09	0.46	0.8	1.7	8	Cloudy	SSW	5	15	29
09to10	0.4	0.6	0.8	3	Cloudy	SW	7	14	42
10to11	0.5	0.8	1.3	7	Cloudy	SSW	6	13	29
11to12				0	Overcast	S	3	14	25
12to13				0	Rain	NW/S	1	12	47
13to14				0	Rain (17mm)	NW/S	2	10	88
14to15	0.49	1.1	2.0	9	**P**/medium	SE	2	10	68
15to16	0.61	1.3	2.8	3	Cloudy	SE	2	12	63
16to17	0.46	0.8	1.2	8	Cloudy	SW	5	13	28
17to18	0.58	0.9	1.1	8	Cloudy	SW	6	14	33
18to19	0.53	0.7	1.1	9	Hazy	SW	7	14	29
19to20	0.52	0.8	1.4	8	**P**/low	WSW	6	15	29
20to21	0.70	1.1	2.2	9	**P**/medium	W	3	16	24
21to22	0.68	0.9	1.3	9	Cloudy	W	3	16	21
22to23	0.59	0.9	1.6	3	Cloudy	W	5	14	9
23to24	0.69	1.2	2.2	9	**P**/high	SSE	5	12	43
24to25	1.12	1.6	3.0	9	**P**/medium	SE	6	14	32
25to26	0.63	1.1	2.8	9	**P**/low	ESE	7	16	25
26to27	0.65	0.9	1.2	9	**P**/low	SSW	7	16	27
27to28	0.50	0.9	2.3	9	Cloudy	SE	8	15	40
28to29				0	Overcast	NE	4	15	34
29to30	0.75	1.2	2.2	6	Cloudy	NNE	1	12	63
Summary	0.4	0.91		191	Phot. Nights 43%				

D E C E M B E R 1994

night quality (Phot., Cloudy, Overcast) is given in the scintillation column. Scintillation is only measured on Photometric sky

. The seeing is measured at 2 m above ground. The averages correspond to the total measurement duration in the night (given in hours).

	10 min. exposure FWHM at 0.5 μ				Scintillation	Wind at 2 m		Temp.	RH
date	min.	mean (")	max.	hours	Index	Dir.	Speed (m/s)	C	%
Observer: Rolf Lengenfelder									
00to01	0.59	0.9	1.3	6	Cloudy	ESE	4	12	73
01to02	0.45	0.8	1.2	9	**P**/low	SW	4	13	36
02to03	0.67	2.0	3.2	7	Cloudy	SSW	7	14	29
03to04	0.55	0.9	2.0	3	Cloudy	SW	6	16	48
04to05				0	Rain	SW	4	16	44
05to06	0.59	0.9	1.5	6	Cloudy	SE	3	15	54
06to07	0.74	1.0	1.3	3	Cloudy	N/S	2	14	71
07to08				0	Rain	N/S	2	15	68
08to09	0.50	0.8	1.3	8	Cloudy	S	5	14	30
09to10	0.70	1.0	1.6	9	Cloudy	S	4	14	40
10to11	0.60	0.8	1.3	7	Cloudy	SE	4	16	49
11to12	0.60	1.1	1.8	9	**P**/medium	SE	4	16	43
12to13	0.64	1.0	1.5	8	Cloudy	SE	4	17	40
13to14	0.87	1.1	1.3	1	Cloudy	SE	5	16	45
14to15	0.60	0.8	1.3	8	Cloudy	SE	6	17	32
15to16	0.70	0.9	1.2	0.1	Cloudy	S	2	18	30
16to17	0.42	0.6	0.8	2	Cloudy	SW	3	18	32
17to18	0.67	1.0	1.7	7	**P**/medium	S	4	16	30
18to19	0.82	1.4	3.1	8	**P**/low	S	4	16	15
19to20	0.84	1.1	1.8	8	**P**/low	S	4	18	15
20to21	0.62	0.9	1.8	8	**P**/low	S	5	18	15
21to22	0.75	1.0	1.3	3	Cloudy	SW	5	17	19
22to23	0.59	0.8	1.0	2	Cloudy	SW	5	14	50
23to24	0.33	0.7	1.3	8	Cloudy	SW	4	12	32
24to25				0	Spectr.				
25to26	0.52	0.8	1.2	8	**P**/medium	NW	3	13	14
26to27	0.74	1.0	1.6	8	**P**/low	S	2	12	23
27to28	0.62	1.2	2.5	8	**P**/low	S	3	13	34
28to29	0.59	1.0	1.6	7	Spectr.	S	5	16	33
29to30	0.61	1.0	1.5	5	Cloudy	WSW	4	15	18
30to31	0.49	0.9	1.5	8	**P**/low	W	3.6	13	16
Summary	0.3	0.93		170	Phot. Nights 32%				

J A N U A R Y 1995

night quality (Phot., Cloudy, Overcast) is given in the scintillation column. Scintillation is only measured on Photometric sky

. The seeing is measured at 2 m above ground. The averages correspond to the total measurement duration in the night (given in hours).

date	10 min. exposure FWHM at 0.5 μ min.	mean (")	max.	hours	Scintillation Index	Wind at 2 m Dir.	Speed (m/s)	Temp. C	RH %
				Observer: Rolf Lengenfelder					
00to01	0.83	1.3	3.3	8	**P**/low	W	1	13	19
				Observer: Frank Kosalla					
01to02	0.63	1.2	2.7	8	**P**/low	W	1	14	35
02to03	0.65	0.9	1.2	2	Cloudy	S	7	18	35
03to04	0.78	1.2	1.7	3	Cloudy	SE	2	19	47
04to05	0.76	1.1	1.7	3	Cloudy	E	4	19	40
05to06	0.62	1.0	1.9	7	**P**	E	4	19	33
06to07	0.94	1.5	2.5	8	**P**	SE	4	18	31
07to08	0.56	0.7	0.9	2	Cloudy	SE	7	19	41
08to09				0	Cloudy	SE	5	19	44
09to10	0.69	0.9	1.2	3	**P**/medium	SSW	5	17	23
10to11	0.54	1.1	2.1	7	**P**/low	SW	3	11	30
11to12	0.68	1.0	2.9	5	**P**/low	W	2	8	32
12to13	0.53	0.9	1.7	8	**P**/medium	NW	3	9	28
13to14	0.68	1.1	1.7	6	**P**/medium	SSW	3	8	49
14to15	0.76	1.1	1.7	5	**P**/low	S	4	12	31
15to16	0.66	1.2	2.8	8	**P**/low	SW	4	13	22
16to17	0.69	1.4	2.7	7	**P**/medium	SSW	3	13	68
17to18	0.78	1.0	1.2	1	Cloudy	W	4	13	44
18to19	0.48	0.9	2.3	4	Cloudy	W	2	14	33
19to20	0.46	0.8	1.3	6	Cloudy	NW	2	13	19
20to21	0.71	1.1	2.3	6	**P**/medium	NW	3	12	22
21to22	0.46	0.8	1.3	6	**P**/low	NW	4	12	26
22to23	0.76	1.1	2.1	8	**P**/medium	NW	2	15	19
23to24	0.71	1.1	1.4	8	Spectr.	SW	4	17	22
24to25	0.72	1.1	1.5	3	Cloudy	S	3	18	36
25to26	0.69	0.8	1.0	3	Cloudy	SW	3	18	39
26to27	0.65	0.9	1.3	7	Cloudy	S	4	18	20
27to28				0	Overcast	S	4	17	21
28to29	0.80	1.0	1.4	2	Cloudy	SW	3	17	39
29to30	0.70	1.1	2.3	7	Cloudy	SSW	2	15	52
30to31	0.42	0.7	2.1	7	Cloudy	W	3	16	50
Summary	0.4	0.97		158	Phot. Nights 48%				

F E B R U A R Y 1995

night quality (Phot., Cloudy, Overcast) is given in the scintillation column. Scintillation is only measured on Photometric sky

. The seeing is measured at 2 m above ground. The averages correspond to the total measurement duration in the night (given in hours).

	10 min. exposure FWHM at 0.5 μ				Scintillation	Wind at 2 m		Temp.	RH
date	min.	mean (")	max.	hours	Index	Dir.	Speed (m/s)	C	%
Observer: Frank Kosalla									
00to01	0.46	0.8	2.0	8	**P**/low	SW	4	16	45
01to02	0.58	0.9	1.4	8	**P**/low	S	3	17	32
02to03				0	Rain		4	18	46
03to04				0	Rain (2mm)		5	15	83
04to05				0	Rain		5	15	85
05to06	0.90	1.2	1.8	1	Cloudy	SSW	4	15	75
06to07	0.65	0.9	1.4	5	Cloudy	SSW	5	15	57
07to08	0.75	1.2	1.7	4	Cloudy	SSW	6	16	67
08to09				0	Rain		4	16	63
09to10				0	Rain		4	16	62
10to11				0	Cloudy		4	14	75
11to12				0	Rain (11mm)		3	15	75
12to13				0	Cloudy		1	13	60
13to14				0	Overcast		2	13	70
14to15				0	Rain (21mm)		3	12	97
15to16				0	Rain (27mm)		-	-	-
16to17				0	Rain (42mm)		-	-	-
17to18				0	Rain		5	14	88
18to19				0	Cloudy		4	15	82
19to20				0	Thunder		-	-	-
20to21				0	Cloudy		5	15	80
21to22	0.48	0.8	1.4	7	Spectr.	SE	4	17	67
22to23				0	Rain		5	15	80
Observer: Rolf Lengenfelder									
23to24	0.43	0.5	0.6	2	Cloudy	E	5	17	67
24to25				0	Rain (3mm)		2	13	94
25to26				0	Fog		1	13	87
26to27				0	Rain (4mm)		3	11	96
27to28				0	Overcast		1	12	96
Summary	0.4	0.81		35	Phot. Nights 7%, Total Rain 110 mm				

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night quality (Phot., Cloudy, Overcast) is given in the scintillation column. Scintillation is only measured on Photometric sky

. The seeing is measured at 2 m above ground. The averages correspond to the total measurement duration in the night (given in hours).

	10 min. exposure FWHM at 0.5 μ				Scintillation	Wind at 2 m		Temp.	RH
date	min.	mean (")	max.	hours	Index	Dir.	Speed (m/s)	C	%
				Observer: Rolf Lengenfelder					
00to01				0	Rain (80mm)		-	-	-
01to02				0	Rain (2mm)		3	13	98
02to03				0	Rain		3	13	95
03to04				0	Rain (5mm)		3	14	86
04to05				0	Rain (20mm)		3	16	89
05to06				0	Cloudy		5	14	85
06to07				0	Rain (1mm)		3	14	86
07to08				0	Rain (8mm)		2	13	90
08to09				0	Rain (2mm)		3	12	81
09to10				0	Cloudy		3	13	88
10to11				0	Rain (4mm)		1	13	90
11to12				0	Rain (2mm)		2	13	97
12to13				0	Rain (34mm)		2	13	95
13to14				0	Rain		3	14	94
14to15	0.66	1.0	1.2	5	Cloudy	E	5	16	68
15to16				0	Rain		3	16	64
16to17	0.95	1.2	1.7	6	Cloudy	NE	2	16	53
17to18	1.28	1.7	2.1	4	Cloudy	S	2	15	58
18to19	0.94	1.4	2.2	6	Cloudy	SSW	3	15	59
19to20									
20to21									
21to22									
22to23									
23to24									
24to25									
25to26									
26to27									
27to28									
28to29									
29to30									
30to31									
Summary					Phot. Nights %, Total Rain 160 mm				

Gamsberg ESO monitoring station:

Monitoring of Gamsberg started on July 21, 1994 to bring a complement to the existing database (1969-1975) in the following fields:

1. **SEEING**: a differential motion image monitor (DIMM1), similar to the ones in operation at La Silla (DIMM2) and Paranal (DIMM3) was installed on a 1 m high platform. The seeing data given in the quick look tables still have to be corrected for ground effects to be compared to measurements taken on 5 m high towers. At Paranal, as shown in the June 94 issue of *The Messenger*, the gain moving from the 1 m platform to a 5 m high tower in April 1994 was of the order of 0.15 arcsec on the average.

2. **GROUND LEVEL TURBULENCE**: a set of microthermal sensors (.001 C resolution at 10 Hz) monitors the thermal turbulence (C_T^2) at 3.5 m height above ground in the vicinity of the DIMM telescope. This data set is later used to correct seeing data as explained above. Also wind, temperature and humidity are logged every 10 minutes.

3. **SCINTILLATION**: the index of scintillation of stars (σ_I^2/I^2) is monitored with a fast photometer (1000 Hz cutoff). This parameter gives also an information on the height of the turbulence layers.

4. **WATER VAPOUR**: the atmospheric precipitable water vapour content is monitored every 2 hours with the same instrument as during the VLT site survey. Data will be reduced by the same scientific group (Lund Obs.).

Monthly Quick Look on Site Monitoring Data

Annex: Definition of Terms

-**Night Quality**
For reason of consistency, night quality is described in the tables with the same strict criteria as used during the Paranal/La Silla comparison (VLT Report 62) with regards to Photometric and Spectroscopic nights. A night which is neither photometric nor spectroscopic (according to the definitions given below) is then called cloudy if stars are still visible and seeing measurements partially possible (the number of hours of seeing measurements gives then an indication of how useful the night has been).
It is recalled that the definition of **a photometric night** calls for six hours of consecutive photometric nighttime, where **photometric time** is used to describe time without any cloud in the sky higher than five degrees above the horizon. **Nighttime** in this sense is restricted to hours for which the Sun has an altitude lower than 18 degrees below the horizon.
Similarly, **a spectroscopic night** is defined as one for which the sky has been spectroscopic during a total of at least 6 hours, with no demand on consecutiveness. **Spectroscopic sky** is defined as one with at least 50% of its area free from clouds or at most 20% absorption over a major part.

-**Seeing measurements:**
The seeing monitor is operated whenever the sun is more than 10 degrees below the horizon, **AND** a star of magnitude brighter than 2 is visible (with the naked eye) in the southern half of the sky, **AND** relative humidity is lower than 80%, **AND** wind speed is below 15 m/s.
Thanks to the quality of our observers at Gamsberg, downtime for technical or human reasons has been quasi-negligible since July 27, 1994 (Christmas Eve excepted) so that the monthly average duration of seeing measurements per night is a fair and operationally realistic representation of seasonal effects (including darktime) if one wants to relax the constraints for photometric or spectroscopic sky. This time was, from August 94 to February 95 in a chronological order of 8.7, 6.3, 6.3, 6.4, 5.7, 5.1, and 1.3 hours.

M. Sarazin, November 18, 1997