Simultaneous Observations of maser lines of ^{28}SiO in Evolved Stars

Electronic Appendix: Tables 5-16

J.R. Pardo[1,2,3], **J. Cernicharo**[4,2], **E. González-Alfonso**[2,5] **and V. Bujarrabal**[2]

[1] DEMIRM/Observatoire de Paris-Meudon, 61 Avenue de l'Observatoire, 75014 Paris, France.
[2] Observatorio Astronómico Nacional, Campus Universitario Apartado 1143, E-28800 Alcalá de Henares, Madrid, Spain.
[3] Present address: NASA-Goddard Institute for Space Studies, 2880 Broadway, New York, N.Y. 10025, U.S.A.
[4] CSIC, IEM, Dpto. Física Molecular, Serrano 123, E-28006 Madrid, Spain.
[5] Universidad de Alcalá de Henares, Departamento de Física, Campus Universitario, E-28871 Alcalá de Henares, Madrid, Spain.

July 29th, 1997

Table 5. Parameters of detected ^{28}SiO lines in R Aql

Line	Peak velocity (km·s^{-1})	Peak halfwidth (km·s^{-1})	Integrated area (Jy·km·s^{-1})
v=1 J=1→0	43.27	0.78	19.8
	44.40	0.98	28.4
	45.88	1.38	29.0
v=1 J=2→1	43.56	1.62	81.0
	45.90	0.73	52.2
	45.16	3.22	181.8
v=1 J=2→1	43.06	2.04	30.2
	44.72	1.60	29.4
	46.45	1.82	67.1
v=1 J=3→2	44.51	1.09	18.0
	45.58	0.75	38.7
	45.55	2.94	108.0
v=1 J=4→3	45.42	3.02	16.7
v=2 J=4→3	41.02	1.48	7.3
	42.58	1.21	45.8
	44.59	1.99	13.3
v=3 J=4→3	49.31	0.73	0.8
	51.05	1.43	4.4

Table 6. Parameters of detected ^{28}SiO lines in RR Aql

Line	Peak velocity (km·s^{-1})	Peak halfwidth (km·s^{-1})	Integrated area (Jy·km·s^{-1})
v=1 J=1→0	29.21	3.36	110.70
	32.82	2.14	108.00
v=1 J=2→1	27.02	1.43	116.10
	28.72	0.81	35.42
	30.04	1.00	128.25
	31.05	0.85	61.65
	32.44	1.58	223.20
v=1 J=2→1	27.18	1.18	81.45
	29.97	1.68	89.55
	32.45	2.10	88.20
v=1 J=3→2	27.57	1.25	10.04
	29.88	1.50	58.05
v=1 J=4→3	31.97	6.63	19.65
v=1 J=5→4	326.93	1.29	22.98
	29.06	1.41	12.60
	30.22	0.57	2.94
v=2 J=1→0	28.08	1.61	81.81
	31.44	0.70	18.81
	33.89	1.65	38.97
v=2 J=2→1	30.64	8.01	4.03
v=2 J=4→3	28.47	2.07	61.50
	33.02	3.28	251.00

This article was processed by the author using Springer-Verlag LaTeX A&A style file 1990.

Send offprint requests to: J.R. Pardo

Table 7. Parameters of detected ^{28}SiO lines in R Cas

Line	Peak velocity (km·s^{-1})	Peak halfwidth (km·s^{-1})	Integrated area (Jy·km·s^{-1})
v=1 J=1→0	19.36	0.94	48.8
	23.64	1.53	1080
v=1 J=1→0	23.69	0.96	214.2
	25.48	1.98	342.9
v=1 J=2→1	18.19	1.67	12.9
	21.67	1.06	88.2
	23.07	0.97	68.9
	24.21	0.89	30.0
	25.71	1.25	78.3
	28.00	1.06	27.7
	29.79	1.19	27.7
	30.78	0.91	27.7
	31.52	0.47	27.7
v=1 J=2→1	21.43	1.42	28.9
	23.18	1.30	47.3
	25.02	1.22	28.7
	27.12	3.07	21.9
v=1 J=3→2	21.87	1.53	12.42
	23.64	0.61	41.31
	25.78	1.84	15.98
	27.44	0.75	14.81
	29.96	0.77	15.39
v=1 J=4→3	26.02	1.08	21.2
	27.53	0.73	19.5
v=1 J=5→4	26.84	4.07	33.6
	27.77	0.76	18.6
	30.63	1.08	18.0
	33.68	1.38	19.0
v=2 J=1→0	24.37	2.47	536.4
	26.45	1.25	210.6
v=2 J=1→0	23.61	1.61	687.6
	25.33	1.39	375.3
v=2 J=4→3	22.96	0.92	64.0
	25.26	2.94	17.4
v=3 J=4→3	23.15	0.85	34.7

Table 8. Parameters of detected ^{28}SiO lines in TX Cam

Line	Peak velocity (km·s^{-1})	Peak halfwidth (km·s^{-1})	Integrated area (Jy·km·s^{-1})
v=1 J=1→0	8.949	3.636	1719.0
v=1 J=2→1	6.616	1.532	137.25
	9.137	3.178	612.00
v=1 J=3→2	7.335	2.303	21.42
	9.147	0.969	11.88
	11.510	1.595	3.97
v=2 J=1→0	9.196	3.749	1197.0
v=2 J=2→1	10.443	3.496	6.12
v=2 J=4→3	8.973	1.901	49.50
	10.415	0.977	21.50
v=3 J=4→3	8.741	1.135	38.10

Table 9. Parameters of detected ^{28}SiO lines in T Cep

Line	Peak velocity (km·s^{-1})	Peak halfwidth (km·s^{-1})	Integrated area (Jy·km·s^{-1})
v=1 J=1→0	-3.06	3.25	86.0
	0.10	1.61	45.7
	2.30	1.21	5.4
v=1 J=2→1	-3.19	2.43	693.0
	-0.12	1.67	284.0
	2.08	1.60	170.1
v=1 J=2→1	-3.00	2.06	517.5
	-0.90	1.03	65.7
	0.07	2.60	185.4
v=1 J=3→2	-4.40	1.48	28.4
	-2.47	1.97	87.8
	-0.85	0.85	14.3
	0.06	3.56	21.8
v=1 J=4→3	-3.16	3.85	99.5
v=1 J=5→4	3.36	2.70	21.8
v=2 J=1→0	-6.05	1.01	51.3
	-4.06	1.73	237.6
	-2.16	1.37	85.3
	-0.20	2.26	84.8
	4.08	2.28	50.5
v=2 J=4→3	1.75	5.05	35.1

Table 10. Parameters of detected ^{28}SiO lines in μ Cep

Line	Peak velocity (km·s^{-1})	Peak halfwidth (km·s^{-1})	Integrated area (Jy·km·s^{-1})
v=1 J=1→0	25.06	2.94	109.80
v=1 J=1→0	24.55	2.66	69.84
v=1 J=2→1	20.44	3.18	125.55
	23.25	1.53	60.30
	24.45	1.30	72.00
	26.38	1.97	297.90
v=1 J=2→1	18.97	3.41	29.88
	20.65	3.55	71.55
	24.04	2.02	95.85
	26.28	2.11	224.10
	30.67	3.26	15.57
v=1 J=3→2	20.85	2.24	58.50
	26.38	1.06	38.25
v=1 J=4→3	18.33	1.95	45.35
	20.62	2.45	121.00
	23.28	1.52	52.50
	26.73	3.46	166.00
	31.15	4.33	86.50
v=1 J=5→4	17.18	2.50	15.66
	20.87	2.58	97.20
	24.83	1.61	30.66
v=1 J=6→5	4.80	0.92	6.96
	20.41	3.52	97.80
	30.56	2.19	20.58
	33.68	1.94	14.28
v=2 J=1→0	22.89	1.82	58.05
	25.46	1.76	127.80
v=2 J=1→0	25.09	2.63	119.70
v=2 J=4→3	18.62	2.48	32.55
	23.10	2.02	86.50
	25.58	2.24	228.50
v=2 J=5→4	25.39	0.90	8.82
v=3 J=4→3	26.11	2.03	6.05

Table 11. Parameters of detected ^{28}SiO lines in NML Cyg

Line	Peak velocity (km·s^{-1})	Peak halfwidth (km·s^{-1})	Integrated area (Jy·km·s^{-1})
v=1 J=2→1	-18.06	7.84	14.4
	-7.27	1.17	15.6
	-3.78	3.68	36.9
	-1.56	13.67	241.2
v=1 J=3→2	-6.82	3.54	14.5
	2.61	7.35	28.4
v=1 J=4→3	5.08	3.37	7.4
v=1 J=5→4	15.46	8.51	13.4
v=2 J=4→3	-1.81	2.72	9.7

Table 12. Parameters of detected ^{28}SiO lines in R Leo

Line	Peak velocity (km·s^{-1})	Peak halfwidth (km·s^{-1})	Integrated area (Jy·km·s^{-1})
v=1 J=1→0	-4.78	2.56	386.1
	-0.46	1.50	2034
	1.23	1.16	898.20
	2.01	4.68	1143
v=1 J=2→1	-2.95	2.12	693
	-2.01	0.77	1003.5
	-0.68	1.83	3082.5
	0.82	1.35	1804.5
	2.74	1.17	251.1
v=1 J=3→2	-4.00	0.92	295.7
	-2.11	1.16	1386
	-1.07	0.76	293.9
	-0.20	1.15	549.0
	1.12	1.15	417.2
v=1 J=4→3	-3.93	1.04	161.5
	-2.15	1.02	1165
	-1.01	1.18	755
	0.89	1.53	142.5
v=1 J=5→4	-5.23	1.40	54.2
	-2.94	1.97	109.2
	-1.14	1.04	190.8
	1.08	2.05	89.4
v=2 J=1→0	-5.19	1.43	408
	-2.15	2.10	467
	-0.35	1.26	513
	1.13	1.32	936
	3.17	2.11	333
v=2 J=4→3	-5.52	1.50	46.1
	-3.06	1.72	54.0
	0.58	2.25	450
	3.22	1.78	41.4
	6.58	4.68	137
v=2 J=5→4	5.75	7.01	39.6
v=3 J=4→3	-5.48	1.13	83.0
	1.56	1.70	286
	4.16	2.32	236
	7.12	1.98	96.5
	8.89	1.45	45.9

Table 13. Parameters of detected ^{28}SiO lines in S Per

Line	Peak velocity ($km\cdot s^{-1}$)	Peak halfwidth ($km\cdot s^{-1}$)	Integrated area ($Jy\cdot km\cdot s^{-1}$)
v=1 J=2→1	-31.37	2.47	51.75
	-34.27	2.21	54.45
	-48.24	12.78	108.90
	-41.39	1.98	73.35
	-38.12	3.91	180.45
v=1 J=2→1	-50.82	4.83	68.40
	-40.12	6.18	288.00
	-34.72	3.67	61.20
	-31.35	3.72	43.79
v=1 J=3→2	-40.58	8.43	45.45
	-33.65	6.35	26.82
v=1 J=5→4	-37.46	21.45	28.92
	-36.14	3.56	17.18
	-35.81	12.58	29.64
v=2 J=1→0	-37.86	8.57	153.90
v=2 J=4→3	-37.40	9.72	18.95
v=3 J=4→3	-36.66	5.11	9.80

Table 14. Parameters of detected ^{28}SiO lines in IK Tau

Line	Peak velocity ($km\cdot s^{-1}$)	Peak halfwidth ($km\cdot s^{-1}$)	Integrated area ($Jy\cdot km\cdot s^{-1}$)
v=1 J=1→0	33.39	0.95	301.5
	34.39	3.30	90.9
v=1 J=2→1	32.57	0.68	130.1
	34.06	1.92	1044
	35.86	1.22	3609
	37.08	2.97	1611
v=1 J=3→2	33.84	2.40	481.5
v=1 J=4→3	33.09	5.74	42.1
	33.13	1.28	26.5
	34.32	0.99	27.8
v=1 J=5→4	35.14	4.86	34.6
	37.10	0.83	3.1
v=2 J=1→0	33.41	1.29	582.3
	34.99	1.16	183.6
	36.51	1.32	133.2
v=2 J=4→3	34.15	4.28	32.9
	35.09	1.14	36.1
v=2 J=5→4	33.95	2.73	6.2
v=3 J=4→3	33.95	2.72	60.5
	34.99	0.60	8.8

Table 15. Parameters of detected ^{28}SiO lines in IRC+10011

Line	Peak velocity ($km\cdot s^{-1}$)	Peak halfwidth ($km\cdot s^{-1}$)	Integrated area ($Jy\cdot km\cdot s^{-1}$)
v=1 J=1→0	9.78	2.62	826.2
v=1 J=2→1	7.39	2.04	185.4
	9.68	1.22	33.6
	11.01	1.02	12.2
	12.26	0.91	5.3
v=1 J=3→2	7.75	2.47	109.4
v=1 J=4→3	7.57	1.90	13.1
v=2 J=1→0	9.93	3.23	936
v=2 J=4→3	9.69	1.26	29.2
	12.09	2.18	42.1
v=2 J=5→4	9.11	4.96	15.2
v=3 J=4→3	9.84	1.62	89.5
	11.17	3.66	118.5

Table 16. Parameters of detected ^{28}SiO lines in IRC+50137

Line	Peak velocity ($km\cdot s^{-1}$)	Peak halfwidth ($km\cdot s^{-1}$)	Integrated area ($Jy\cdot km\cdot s^{-1}$)
v=1 J=2→1	2.43	2.36	79.7
	6.08	0.78	6.7
	7.20	0.88	5.2
v=1 J=3→2	1.10	1.53	6.0
	2.98	1.67	10.3
v=2 J=4→3	3.76	1.72	4.7
	4.78	0.82	5.2
	6.07	1.24	19.4
v=2 J=5→4	2.90	2.04	15.0
v=3 J=4→3	5.18	4.37	17.0