

VOYAGER 1 DUST IMPACTS  
 (June 23, 2022)

PART#/MOD16.MOD60 FILENAME	YYYY-DDD	SCET TIME
2/27204.35	1980-060	// 00:13:38.204
2/27204.57	1980-060	// 00:31:14.204
2/47474.21	1982-004	// 16:02:18.421
2/51317.18	1982-132	// 18:23:55.054
2/52730.44	1982-179	// 21:08:33.822
2/57825.57	1982-349	// 17:18:57.802
2/59563.05	1983-042	// 15:01:22.009
2/64961.53	1983-222	// 14:03:47.508
3/02939.59	1983-339	// 17:20:36.427
3/06543.56	1984-094	// 20:30:13.332
3/06543.58	1984-094	// 20:31:49.332
3/08936.54	1984-174	// 14:52:34.352
3/17307.56	1985-087	// 15:42:11.958
3/22103.22	1985-247	// 12:02:59.977
3/45775.59	1987-306	// 14:08:37.176
4/01465.49	1988-067	// 12:24:35.958
4/04014.35	1988-152	// 11:25:24.261
4/13013.26	1989-086	// 10:30:11.531
4/14937.46	1989-150	// 13:58:11.281
4/31322.40	1990-331	// 17:53:31.736
4/33836.40	1991-050	// 13:05:30.902
4/35093.40	1991-092	// 10:41:30.864
4/36141.10	1991-127	// 08:41:30.926
4/42032.40	1991-323	// 17:53:30.650
4/46013.10	1992-091	// 10:17:30.585
4/51626.35	1992-278	// 13:01:29.027
4/51695.10	1992-280	// 19:53:29.010
4/51995.20	1992-290	// 20:01:28.938
4/55466.10	1993-040	// 12:41:28.431
4/56783.01	1993-084	// 10:10:16.135
4/57592.54	1993-111	// 10:04:39.941
5/43691.11	1998-006	// 13:29:59.058
5/63644.41	1999-306	// 16:17:54.088
6/06698.11	2000-227	// 23:53:52.756
6/10035.15	2000-339	// 05:33:03.839
6/10494.41	2000-354	// 13:05:51.729
6/11961.11	2001-037	// 10:17:51.375
6/15051.35	2001-140	// 10:37:02.543
6/18036.41	2001-239	// 22:41:49.982
6/18754.35	2001-263	// 21:01:01.687
6/34108.41	2003-045	// 16:17:49.815
6/44092.41	2004-013	// 11:29:49.164
6/58880.41	2005-140	// 09:53:46.668
7/06052.11	2006-198	// 23:53:43.725
7/07099.41	2006-233	// 21:53:43.885
7/10475.11	2006-346	// 10:17:43.096
7/21911.11	2007-362	// 15:05:42.318
7/33570.41	2009-020	// 06:41:38.788
7/47311.11	2010-113	// 07:05:35.061
7/64960.11	2011-336	// 14:17:26.813
8/12648.11	2013-046	// 09:29:20.562
8/17017.58	2013-192	// 01:18:54.471
8/35227.11	2015-069	// 00:41:08.213
8/41747.11	2015-286	// 08:41:04.018
8/42507.12	2015-311	// 16:41:51.816
8/55521.43	2017-014	// 12:18:29.890
8/58809.58	2017-124	// 02:54:27.387

(over)

9/03774.28      2018-109 // 03:18:17.131  
9/31227.11      2020-294 // 05:28:07.055  
9/44163.43      2021-359 // 10:41:23.424

VOYAGER 1 DUST IMPACTS  
(April 22, 2020)

PART#/MOD16.MOD60 FILENAME	YYYY-DDD	SCET TIME
2/27204.35	1980-060	// 00:13:38.204
2/27204.57	1980-060	// 00:31:14.204
2/47474.21	1982-004	// 16:02:18.421
2/51317.18	1982-132	// 18:23:55.054
2/52730.44	1982-179	// 21:08:33.822
2/57825.57	1982-349	// 17:18:57.802
2/59563.05	1983-042	// 15:01:22.009
2/64961.53	1983-222	// 14:03:47.508
3/02939.59	1983-339	// 17:20:36.427
3/06543.56	1984-094	// 20:30:13.332
3/06543.58	1984-094	// 20:31:49.332
3/08936.54	1984-174	// 14:52:34.352
3/17307.56	1985-087	// 15:42:11.958
3/22103.22	1985-247	// 12:02:59.977
3/45775.59	1987-306	// 14:08:37.176
4/01465.49	1988-067	// 12:24:35.958
4/04014.35	1988-152	// 11:25:24.261
4/13013.26	1989-086	// 10:30:11.531
4/14937.46	1989-150	// 13:58:11.281
4/31322.40	1990-331	// 17:53:31.736
4/33836.40	1991-050	// 13:05:30.902
4/35093.40	1991-092	// 10:41:30.864
4/36141.10	1991-127	// 08:41:30.926
4/42032.40	1991-323	// 17:53:30.650
4/46013.10	1992-091	// 10:17:30.585
4/51626.35	1992-278	// 13:01:29.027
4/51695.10	1992-280	// 19:53:29.010
4/51995.20	1992-290	// 20:01:28.938
4/55466.10	1993-040	// 12:41:28.431
4/56783.01	1993-084	// 10:10:16.135
4/57592.54	1993-111	// 10:04:39.941
5/43691.11	1998-006	// 13:29:59.058
5/63644.41	1999-306	// 16:17:54.088
6/06698.11	2000-227	// 23:53:52.756
6/10035.15	2000-339	// 05:33:03.839
6/10494.41	2000-354	// 13:05:51.729
6/11961.11	2001-037	// 10:17:51.375
6/15051.35	2001-140	// 10:37:02.543
6/18036.41	2001-239	// 22:41:49.982
6/18754.35	2001-263	// 21:01:01.687
6/34108.41	2003-045	// 16:17:49.815
6/44092.41	2004-013	// 11:29:49.164
6/58880.41	2005-140	// 09:53:46.668
7/06052.11	2006-198	// 23:53:43.725
7/07099.41	2006-233	// 21:53:43.885
7/10475.11	2006-346	// 10:17:43.096
7/21911.11	2007-362	// 15:05:42.318
7/33570.41	2009-020	// 06:41:38.788
7/47311.11	2010-113	// 07:05:35.061
7/64960.11	2011-336	// 14:17:26.813
8/12648.11	2013-046	// 09:29:20.562
8/17017.58	2013-192	// 01:18:54.471
8/35227.11	2015-069	// 00:41:08.213
8/42507.12	2015-311	// 16:41:51.816
8/55521.43	2017-014	// 12:18:29.890
8/58809.58	2017-124	// 02:54:27.387
9/03774.28	2018-109	// 03:18:17.093

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To obtain this listing, move to

`/opt/project/voyager/data/dust/interplanetary/voyagerN/hits`

where the gif files for the identified dust impacts reside for each spacecraft.

Refer to the instructions in

`/home/amp/voyager/voyager_programs/list_of_voyager_data_commands`

for the sequence of commands to obtain scet times from gif filenames and edit scet.list for the header information.

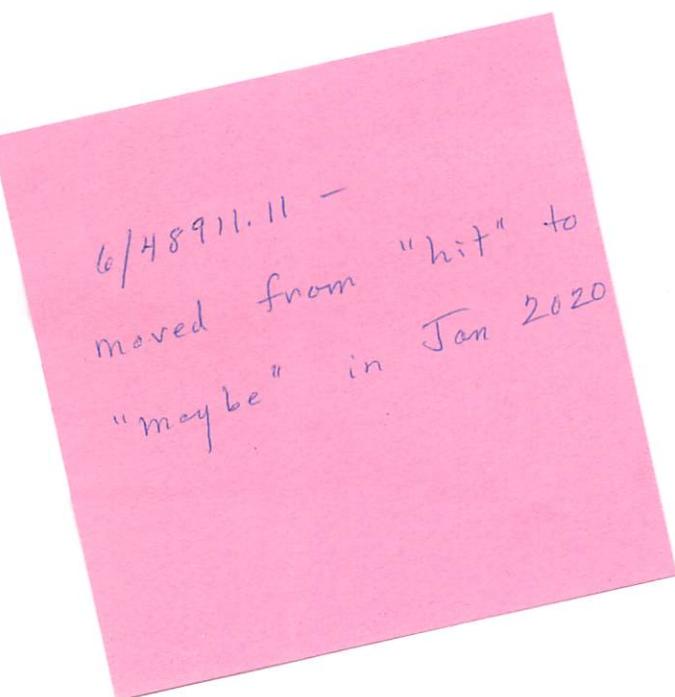
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## VOYAGER 1 DUST IMPACTS

(November 01, 2017)

PART#/MOD16.MOD60 FILENAME	YYYY-DDD	SCET TIME
-------------------------------	----------	-----------

2/27204.35	1980-060	// 00:13:38.204
2/27204.57	1980-060	// 00:31:14.204
2/47474.21	1982-004	// 16:02:18.421
2/51317.18	1982-132	// 18:23:55.054
2/52730.44	1982-179	// 21:08:33.822
2/57825.57	1982-349	// 17:18:57.802
2/59563.05	1983-042	// 15:01:22.009
2/64961.53	1983-222	// 14:03:47.508
3/02939.59	1983-339	// 17:20:36.427
3/06543.56	1984-094	// 20:30:13.332
3/06543.58	1984-094	// 20:31:49.332
3/08936.54	1984-174	// 14:52:34.352
3/17307.56	1985-087	// 15:42:11.958
3/22103.22	1985-247	// 12:02:59.977
3/45775.59	1987-306	// 14:08:37.176
4/01465.49	1988-067	// 12:24:35.958
4/04014.35	1988-152	// 11:25:24.261
4/13013.26	1989-086	// 10:30:11.531
4/14937.46	1989-150	// 13:58:11.281
4/31322.40	1990-331	// 17:53:31.736
4/33836.40	1991-050	// 13:05:30.902
4/35093.40	1991-092	// 10:41:30.864
4/36141.10	1991-127	// 08:41:30.926
4/42032.40	1991-323	// 17:53:30.650
4/46013.10	1992-091	// 10:17:30.585
4/51626.35	1992-278	// 13:01:29.027
4/51695.10	1992-280	// 19:53:29.010
4/51995.20	1992-290	// 20:01:28.938
4/55466.10	1993-040	// 12:41:28.431
4/56783.01	1993-084	// 10:10:16.135
4/57592.54	1993-111	// 10:04:39.941
5/43691.11	1998-006	// 13:29:59.058
5/63644.41	1999-306	// 16:17:54.088
6/06698.11	2000-227	// 23:53:52.756
6/10035.15	2000-339	// 05:33:03.839
6/10494.41	2000-354	// 13:05:51.729
6/11961.11	2001-037	// 10:17:51.375
6/15051.35	2001-140	// 10:37:02.543
6/18036.41	2001-239	// 22:41:49.982
6/18754.35	2001-263	// 21:01:01.687
6/34108.41	2003-045	// 16:17:49.815
6/44092.41	2004-013	// 11:29:49.164
6/48911.11	2004-174	// 02:17:48.415
6/58880.41	2005-140	// 09:53:46.668
7/06052.11	2006-198	// 23:53:43.725
7/07099.41	2006-233	// 21:53:43.885
7/10475.11	2006-346	// 10:17:43.096
7/21911.11	2007-362	// 15:05:42.318
7/33570.41	2009-020	// 06:41:38.788
7/47311.11	2010-113	// 07:05:35.061
7/64960.11	2011-336	// 14:17:26.813
8/12648.11	2013-046	// 09:29:18.387
8/17017.58	2013-192	// 01:18:51.766
8/35227.11	2015-069	// 00:41:04.839
8/42507.12	2015-311	// 16:41:48.474
8/55521.43	2017-014	// 12:18:28.663
8/58809.58	2017-124	// 02:54:26.689



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To obtain this listing, move to

/opt/project/voyager/data/dust/interplanetary/voyagerN/hits

where the gif files for the identified dust impacts reside for each  
spacecraft.

Refer to the instructions in

/home/amp/voyager/voyager\_programs/list\_of\_voyager\_data\_commands

for the sequence of commands to obtain scet times from gif filenames  
and edit scet.list for the header information.

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## VOYAGER 1 DUST IMPACTS

(June 26, 2015)

PART#/MOD16.MOD60 FILENAME	YYYY-DDD	SCET TIME
-------------------------------	----------	-----------

2/27204.35	1980-060	// 00:13:38.204
2/27204.57	1980-060	// 00:31:14.204
2/47474.21	1982-004	// 16:02:18.421
2/51317.18	1982-132	// 18:23:55.054
2/52730.44	1982-179	// 21:08:33.822
2/57825.57	1982-349	// 17:18:57.802
2/59563.05	1983-042	// 15:01:22.009
2/64961.53	1983-222	// 14:03:47.508
3/02939.59	1983-339	// 17:20:36.427
3/06543.56	1984-094	// 20:30:13.332
3/06543.58	1984-094	// 20:31:49.332
3/08936.54	1984-174	// 14:52:34.352
3/17307.56	1985-087	// 15:42:11.958
3/22103.22	1985-247	// 12:02:59.977
3/45775.59	1987-306	// 14:08:37.176
4/01465.49	1988-067	// 12:24:35.958
4/04014.35	1988-152	// 11:25:24.261
4/13013.26	1989-086	// 10:30:11.531
4/14937.46	1989-150	// 13:58:11.281
4/31322.40	1990-331	// 17:53:31.736
4/33836.40	1991-050	// 13:05:30.902
4/35093.40	1991-092	// 10:41:30.864
4/36141.10	1991-127	// 08:41:30.926
4/42032.40	1991-323	// 17:53:30.650
4/46013.10	1992-091	// 10:17:30.585
4/51626.35	1992-278	// 13:01:29.027
4/51695.10	1992-280	// 19:53:29.010
4/51995.20	1992-290	// 20:01:28.938
4/55466.10	1993-040	// 12:41:28.431
4/56783.01	1993-084	// 10:10:16.135
4/57592.54	1993-111	// 10:04:39.941
5/43691.11	1998-006	// 13:29:59.058
5/63644.41	1999-306	// 16:17:54.088
6/06698.11	2000-227	// 23:53:52.756
6/10035.15	2000-339	// 05:33:03.839
6/10494.41	2000-354	// 13:05:51.729
6/11961.11	2001-037	// 10:17:51.375
6/15051.35	2001-140	// 10:37:02.543
6/18036.41	2001-239	// 22:41:49.982
6/18754.35	2001-263	// 21:01:01.687
6/34108.41	2003-045	// 16:17:49.815
6/44092.41	2004-013	// 11:29:49.164
6/48911.11	2004-174	// 02:17:48.415
6/58880.41	2005-140	// 09:53:46.668
7/06052.11	2006-198	// 23:53:43.725
7/07099.41	2006-233	// 21:53:43.885
7/10475.11	2006-346	// 10:17:43.096
7/21911.11	2007-362	// 15:05:42.318
7/33570.41	2009-020	// 06:41:38.788
7/47311.11	2010-113	// 07:05:35.061
7/64960.11	2011-336	// 14:17:26.813
8/12648.11	2013-046	// 09:29:18.387
8/17017.58	2013-192	// 01:18:51.766
8/35227.11	2015-069	// 00:41:04.839

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To obtain this listing, move to

`/opt/project/voyager/data/dust/interplanetary/voyagerN/hits`

where the gif files for the identified dust impacts reside for each spacecraft.

Refer to the instructions in

`/home/amp/voyager/voyager_programs/list_of_voyager_data_commands`

for the sequence of commands to obtain scet times from gif filenames and edit scet.list for the header information.

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## VOYAGER 1 DUST IMPACTS

(August 28, 2012)

PART#/MOD16.MOD60 FILENAME	YYYY-DDD	SCET TIME
-------------------------------	----------	-----------

2/27204.35	1980-060	// 00:13:38.204
2/27204.57	1980-060	// 00:31:14.204
2/47474.21	1982-004	// 16:02:18.421
2/51317.18	1982-132	// 18:23:55.054
2/52730.44	1982-179	// 21:08:33.822
2/57825.57	1982-349	// 17:18:57.802
2/59563.05	1983-042	// 15:01:22.009
2/64961.53	1983-222	// 14:03:47.508
3/02939.59	1983-339	// 17:20:36.427
3/06543.56	1984-094	// 20:30:13.332
3/06543.58	1984-094	// 20:31:49.332
3/08936.54	1984-174	// 14:52:34.352
3/17307.56	1985-087	// 15:42:11.958
3/22103.22	1985-247	// 12:02:59.977
3/45775.59	1987-306	// 14:08:37.176
4/01465.49	1988-067	// 12:24:35.958
4/04014.35	1988-152	// 11:25:24.261
4/13013.26	1989-086	// 10:30:11.531
4/14937.46	1989-150	// 13:58:11.281
4/31322.40	1990-331	// 17:53:31.736
4/33836.40	1991-050	// 13:05:30.902
4/35093.40	1991-092	// 10:41:30.864
4/36141.10	1991-127	// 08:41:30.926
4/42032.40	1991-323	// 17:53:30.650
4/46013.10	1992-091	// 10:17:30.585
4/51626.35	1992-278	// 13:01:29.027
4/51695.10	1992-280	// 19:53:29.010
4/51995.20	1992-290	// 20:01:28.938
4/55466.10	1993-040	// 12:41:28.431
4/56783.01	1993-084	// 10:10:16.135
4/57592.54	1993-111	// 10:04:39.941
5/43691.11	1998-006	// 13:29:59.058
5/63644.41	1999-306	// 16:17:54.088
6/06698.11	2000-227	// 23:53:52.756
6/10035.15	2000-339	// 05:33:03.839
6/10494.41	2000-354	// 13:05:51.729
6/11961.11	2001-037	// 10:17:51.375
6/15051.35	2001-140	// 10:37:02.543
6/18036.41	2001-239	// 22:41:49.982
6/18754.35	2001-263	// 21:01:01.687
6/34108.41	2003-045	// 16:17:49.815
6/44092.41	2004-013	// 11:29:49.164
6/48911.11	2004-174	// 02:17:48.415
6/58880.41	2005-140	// 09:53:46.668
7/06052.11	2006-198	// 23:53:43.725
7/07099.41	2006-233	// 21:53:43.885
7/10475.11	2006-346	// 10:17:43.096
7/21911.11	2007-362	// 15:05:42.318
7/33570.41	2009-020	// 06:41:38.788
7/47311.11	2010-113	// 07:05:35.061
7/64960.11	2011-336	// 14:17:26.813

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To obtain this listing, move to

/opt/project/voyager/data/dust/interplanetary/voyagerN/hits

where the gif files for the identified dust impacts reside for each spacecraft.

Refer to the instructions in

`/home/amp/voyager/voyager_programs/list_of_voyager_data_commands`

for the sequence of commands to obtain scet times from gif filenames and edit scet.list for the header information.

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## VOYAGER 1 DUST IMPACTS

(MARCH 08, 2011)

PART#/MOD16.MOD60 FILENAME	YYYY-DDD	SCET TIME
-------------------------------	----------	-----------

2/27204.35	1980-060	// 00:13:38.204
2/27204.57	1980-060	// 00:31:14.204
2/47474.21	1982-004	// 16:02:18.421
2/51317.18	1982-132	// 18:23:55.054
2/52730.44	1982-179	// 21:08:33.822
2/57825.57	1982-349	// 17:18:57.802
2/59563.05	1983-042	// 15:01:22.009
2/64961.53	1983-222	// 14:03:47.508
3/02939.59	1983-339	// 17:20:36.427
3/06543.56	1984-094	// 20:30:13.332
3/06543.58	1984-094	// 20:31:49.332
3/08936.54	1984-174	// 14:52:34.352
3/17307.56	1985-087	// 15:42:11.958
3/22103.22	1985-247	// 12:02:59.977
3/45775.59	1987-306	// 14:08:37.176
4/01465.49	1988-067	// 12:24:35.958
4/04014.35	1988-152	// 11:25:24.261
4/13013.26	1989-086	// 10:30:11.531
4/14937.46	1989-150	// 13:58:11.281
4/31322.40	1990-331	// 17:53:31.736
4/33836.40	1991-050	// 13:05:30.902
4/35093.40	1991-092	// 10:41:30.864
4/36141.10	1991-127	// 08:41:30.926
4/42032.40	1991-323	// 17:53:30.650
4/46013.10	1992-091	// 10:17:30.585
4/51626.35	1992-278	// 13:01:29.027
4/51695.10	1992-280	// 19:53:29.010
4/51995.20	1992-290	// 20:01:28.938
4/55466.10	1993-040	// 12:41:28.431
4/56783.01	1993-084	// 10:10:16.135
4/57592.54	1993-111	// 10:04:39.941
5/43691.11	1998-006	// 13:29:59.058
5/63644.41	1999-306	// 16:17:54.088
6/06698.11	2000-227	// 23:53:52.756
6/10035.15	2000-339	// 05:33:03.839
6/10494.41	2000-354	// 13:05:51.729
6/11961.11	2001-037	// 10:17:51.375
6/15051.35	2001-140	// 10:37:02.543
6/18036.41	2001-239	// 22:41:49.982
6/18754.35	2001-263	// 21:01:01.687
6/34108.41	2003-045	// 16:17:49.815
6/44092.41	2004-013	// 11:29:49.164
6/48911.11	2004-174	// 02:17:48.415 removed
6/58880.41	2005-140	// 09:53:46.668
7/06052.11	2006-198	// 23:53:43.725
7/07099.41	2006-233	// 21:53:43.885
7/10475.11	2006-346	// 10:17:43.096
7/21911.11	2007-362	// 15:05:42.318
7/33570.41	2009-020	// 06:41:39.788
7/47311.11	2010-113	// 07:05:36.061

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To obtain this listing, move to

/opt/project/voyager/data/dust/interplanetary/voyagerN/hits

where the gif files for the identified dust impacts reside for each spacecraft.

Refer to the instructions in

`/home/amp/voyager/voyager_programs/list_of_voyager_data_commands`

for the sequence of commands to obtain scet times from gif filenames and edit scet.list for the header information.

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## VOYAGER 1 DUST IMPACTS

(DECEMBER 02, 2005)

PART#/MOD16.MOD60 FILENAME	YYYY-DDD	SCET TIME
-------------------------------	----------	-----------

2/27204.35	1980-060	// 00:13:38.204
2/27204.57	1980-060	// 00:31:14.204
2/47474.21	1982-004	// 16:02:18.421
2/51317.18	1982-132	// 18:23:55.054
2/52730.44	1982-179	// 21:08:33.822
2/57825.57	1982-349	// 17:18:57.802
2/59563.05	1983-042	// 15:01:22.009
2/64961.53	1983-222	// 14:03:47.508
3/02939.59	1983-339	// 17:20:36.427
3/06543.56	1984-094	// 20:30:13.332
3/06543.58	1984-094	// 20:31:49.332
3/08936.54	1984-174	// 14:52:34.352
3/17307.56	1985-087	// 15:42:11.958
3/22103.22	1985-247	// 12:02:59.977
3/45775.59	1987-306	// 14:08:37.176
4/01465.49	1988-067	// 12:24:35.958
4/04014.35	1988-152	// 11:25:24.261
4/13013.26	1989-086	// 10:30:11.531
4/14937.46	1989-150	// 13:58:11.281
4/31322.40	1990-331	// 17:53:31.736
4/33836.40	1991-050	// 13:05:30.902
4/35093.40	1991-092	// 10:41:30.864
4/36141.10	1991-127	// 08:41:30.926
4/42032.40	1991-323	// 17:53:30.650
4/46013.10	1992-091	// 10:17:30.585
4/51626.35	1992-278	// 13:01:29.027
4/51995.20	1992-290	// 20:01:28.938
4/55466.10	1993-040	// 12:41:28.431
4/56783.01	1993-084	// 10:10:16.135
4/57592.54	1993-111	// 10:04:39.941
5/43691.11	1998-006	// 13:29:59.058
5/63644.41	1999-306	// 16:17:52.146
6/06698.11	2000-227	// 23:53:52.756
6/10035.15	2000-339	// 05:33:03.338
6/15051.35	2001-140	// 10:37:01.530
6/18036.41	2001-239	// 22:41:48.458
6/18754.35	2001-263	// 21:01:00.199
6/34108.41	2003-045	// 16:17:42.669
6/44092.41	2004-013	// 11:29:39.076
6/58880.41	2005-140	// 09:53:48.012

\*\*\*\*\*

To obtain this listing, move to

`/opt/project/voyager/data/dust/interplanetary/voyagerN/hits`

where the gif files for the identified dust impacts reside for each spacecraft.

Refer to the instructions in

`/home/amp/voyager/voyager_programs/list_of_voyager_data_commands`

for the sequence of commands to obtain scet times from gif filenames and edit scet.list for the header information.

VOYAGER 1 DUST IMPACTS

(SEPTEMBER 30, 2002)

PART#/MOD16.MOD60 FILENAME	YYYY-DDD	SCET TIME
-------------------------------	----------	-----------

2/27204.35	1980-060	// 00:13:38.204
2/27204.57	1980-060	// 00:31:14.204
2/47474.21	1982-004	// 16:02:18.421
2/51317.18	1982-132	// 18:23:55.054
2/52730.44	1982-179	// 21:08:33.822
2/57825.57	1982-349	// 17:18:57.802
2/59563.05	1983-042	// 15:01:22.009
2/64961.53	1983-222	// 14:03:47.508
3/02939.59	1983-339	// 17:20:36.427
3/06543.56	1984-094	// 20:30:13.332
3/06543.58	1984-094	// 20:31:49.332
3/08936.54	1984-174	// 14:52:34.352
3/17307.56	1985-087	// 15:42:11.958
3/22103.22	1985-247	// 12:02:59.977
3/45775.59	1987-306	// 14:08:37.176
4/01465.49	1988-067	// 12:24:35.958
4/04014.35	1988-152	// 11:25:24.261
4/13013.26	1989-086	// 10:30:11.531
4/14937.46	1989-150	// 13:58:11.281
4/31322.40	1990-331	// 17:53:31.736
4/33836.40	1991-050	// 13:05:30.902
4/35093.40	1991-092	// 10:41:30.864
4/36141.10	1991-127	// 08:41:30.926
4/42032.40	1991-323	// 17:53:30.650
4/46013.10	1992-091	// 10:17:30.585
4/51626.35	1992-278	// 13:01:29.027
4/51995.20	1992-290	// 20:01:28.938
4/55466.10	1993-040	// 12:41:28.431
4/56783.01	1993-084	// 10:10:16.135
4/57592.54	1993-111	// 10:04:39.941
5/43691.11	1998-006	// 13:29:59.058
5/63644.41	1999-306	// 16:17:52.146
6/06698.11	2000-227	// 23:53:52.756
6/10035.15	2000-339	// 05:33:03.338
6/15051.35	2001-140	// 10:37:01.530
6/18036.41	2001-239	// 22:41:48.458
6/18754.35	2001-263	// 21:01:00.199

\*\*\*\*\*  
To obtain this listing, move to

/opt/project/voyager/data/dust/interplanetary/voyagerN/hits

where the gif files for the identified dust impacts reside for each spacecraft.

Refer to the instructions in

/home/amp/voyager/voyager\_programs/list\_of\_voyager\_data\_commands

for the sequence of commands to obtain scet times from gif filenames and edit scet.list for the header information.

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## VOYAGER 1 DUST IMPACTS

(JAN 3, 2002)

PART#/MOD16.MOD60 FILENAME	YYYY-DDD	SCET TIME
-------------------------------	----------	-----------

2/27204.35	1980-060	// 00:13:38.204
2/27204.57	1980-060	// 00:31:14.204
2/47474.21	1982-004	// 16:02:18.421
2/51317.18	1982-132	// 18:23:55.054
2/52730.44	1982-179	// 21:08:33.822
2/57825.57	1982-349	// 17:18:57.802
2/59563.05	1983-042	// 15:01:22.009
2/64961.53	1983-222	// 14:03:47.508
3/02939.59	1983-339	// 17:20:36.427
3/06543.56	1984-094	// 20:30:13.332
3/06543.58	1984-094	// 20:31:49.332
3/08936.54	1984-174	// 14:52:34.352
3/17307.56	1985-087	// 15:42:11.958
3/22103.22	1985-247	// 12:02:59.977
3/45775.59	1987-306	// 14:08:37.176
4/01465.49	1988-067	// 12:24:35.958
4/04014.35	1988-152	// 11:25:24.261
4/13013.26	1989-086	// 10:30:11.531
4/14937.46	1989-150	// 13:58:11.281
4/31322.40	1990-331	// 17:53:31.736
4/33836.40	1991-050	// 13:05:30.902
4/35093.40	1991-092	// 10:41:30.864
4/36141.10	1991-127	// 08:41:30.926
4/42032.40	1991-323	// 17:53:30.650
4/46013.10	1992-091	// 10:17:30.585
4/51626.35	1992-278	// 13:01:29.027
4/51995.20	1992-290	// 20:01:28.938
4/55466.10	1993-040	// 12:41:28.431
4/56783.01	1993-084	// 10:10:16.135
4/57592.54	1993-111	// 10:04:39.941
5/43691.11	1998-006	// 13:29:59.058
5/63644.41	1999-306	// 16:17:52.146
6/06698.11	2000-227	// 23:53:52.756
6/10035.15	2000-339	// 05:33:03.338
6/15051.35	2001-140	// 10:37:01.530
6/18036.41	2001-239	// 22:41:48.458
6/18754.35	2001-263	// 21:01:00.199

\*\*\*\*\*  
To obtain this listing, move to

/opt/project/voyager/data/dust/interplanetary/voyagerN/hits

where the gif files for the identified dust impacts reside for each spacecraft.

Refer to the instructions in

/home/amp/voyager/voyager\_programs/list\_of\_voyager\_data\_commands

for the sequence of commands to obtain scet times from gif filenames and edit scet.list for the header information.

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## VOYAGER 1 DUST IMPACTS

(SEP 28, 2001)

PART#/MOD16.MOD60 FILENAME	YYYY-DDD	SCET TIME
-------------------------------	----------	-----------

2/27204.35	1980-060	// 00:13:38.204
2/27204.57	1980-060	// 00:31:14.204
2/47474.21	1982-004	// 16:02:18.421
2/51317.18	1982-132	// 18:23:55.054
2/52730.44	1982-179	// 21:08:33.822
2/57825.57	1982-349	// 17:18:57.802
2/59563.05	1983-042	// 15:01:22.009
2/64961.53	1983-222	// 14:03:47.508
3/02939.59	1983-339	// 17:20:36.427
3/06543.56	1984-094	// 20:30:13.332
3/06543.58	1984-094	// 20:31:49.332
3/08936.54	1984-174	// 14:52:34.352
3/17307.56	1985-087	// 15:42:11.958
3/22103.22	1985-247	// 12:02:59.977
3/45775.59	1987-306	// 14:08:37.176
4/01465.49	1988-067	// 12:24:35.958
4/04014.35	1988-152	// 11:25:24.261
4/13013.26	1989-086	// 10:30:11.531
4/14937.46	1989-150	// 13:58:11.281
4/31322.40	1990-331	// 17:53:31.736
4/33836.40	1991-050	// 13:05:30.902
4/35093.40	1991-092	// 10:41:30.864
4/36141.10	1991-127	// 08:41:30.926
4/42032.40	1991-323	// 17:53:30.650
4/46013.10	1992-091	// 10:17:30.585
4/51626.35	1992-278	// 13:01:29.027
4/51995.20	1992-290	// 20:01:28.938
4/55466.10	1993-040	// 12:41:28.431
4/56783.01	1993-084	// 10:10:16.135
4/57592.54	1993-111	// 10:04:39.941
5/43691.11	1998-006	// 13:29:59.058
5/63644.41	1999-306	// 16:17:52.146
6/06698.11	2000-227	// 23:53:52.756
6/10035.15	2000-339	// 05:33:03.338
6/15051.35	2001-140	// 10:37:01.530

\*\*\*\*\*  
To obtain this listing, move to

/opt/project/voyager/data/dust/interplanetary/voyagerN/hits

where the gif files for the identified dust impacts reside for each spacecraft.

Refer to the instructions in

/home/amp/voyager/voyager\_programs/list\_of\_voyager\_data\_commands

for the sequence of commands to obtain scet times from gif filenames and edit scet.list for the header information.

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## VOYAGER 1 DUST IMPACTS

(MAY 17, 2001)

PART#/MOD16.MOD60 FILENAME	YYYY-DDD	SCET TIME
-------------------------------	----------	-----------

2/27204.35	1980-060	// 00:13:38.204
2/27204.57	1980-060	// 00:31:14.204
2/47474.21	1982-004	// 16:02:18.421
2/51317.18	1982-132	// 18:23:55.054
2/52730.44	1982-179	// 21:08:33.822
2/57825.57	1982-349	// 17:18:57.802
2/59563.05	1983-042	// 15:01:22.009
2/64961.53	1983-222	// 14:03:47.508
3/02939.59	1983-339	// 17:20:36.427
3/06543.56	1984-094	// 20:30:13.332
3/06543.58	1984-094	// 20:31:49.332
3/08936.54	1984-174	// 14:52:34.352
3/17307.56	1985-087	// 15:42:11.958
3/22103.22	1985-247	// 12:02:59.977
3/45775.59	1987-306	// 14:08:37.176
4/01465.49	1988-067	// 12:24:35.958
4/04014.35	1988-152	// 11:25:24.261
4/13013.26	1989-086	// 10:30:11.531
4/14937.46	1989-150	// 13:58:11.281
4/31322.40	1990-331	// 17:53:31.736
4/33836.40	1991-050	// 13:05:30.902
4/35093.40	1991-092	// 10:41:30.864
4/36141.10	1991-127	// 08:41:30.926
4/42032.40	1991-323	// 17:53:30.650
4/46013.10	1992-091	// 10:17:30.585
4/51626.35	1992-278	// 13:01:29.027
4/51995.20	1992-290	// 20:01:28.938
4/55466.10	1993-040	// 12:41:28.431
4/56783.01	1993-084	// 10:10:16.135
4/57592.54	1993-111	// 10:04:39.941
5/43691.11	1998-006	// 13:29:59.058
5/63644.41	1999-306	// 16:17:52.146
6/06698.11	2000-227	// 23:53:52.756
6/10035.15	2000-339	// 05:33:03.338

## VOYAGER 1 DUST IMPACTS

(FEB 2, 2001)

PART#/MOD16.MOD60 FILENAME	YYYY-DDD	SCET TIME
2/27204.35	1980-060	// 00:13:38.204
2/27204.57	1980-060	// 00:31:14.204
2/47474.21	1982-004	// 16:02:18.421
2/51317.18	1982-132	// 18:23:55.054
2/52730.44	1982-179	// 21:08:33.822
2/57825.57	1982-349	// 17:18:57.802
2/59563.05	1983-042	// 15:01:22.009
2/64961.53	1983-222	// 14:03:47.508
3/02939.59	1983-339	// 17:20:36.427
3/06543.56	1984-094	// 20:30:13.332
3/06543.58	1984-094	// 20:31:49.332
3/08936.54	1984-174	// 14:52:34.352
3/17307.56	1985-087	// 15:42:11.958
3/22103.22	1985-247	// 12:02:59.977
3/45775.59	1987-306	// 14:08:37.176
4/01465.49	1988-067	// 12:24:35.958
4/04014.35	1988-152	// 11:25:24.261
4/13013.26	1989-086	// 10:30:11.531
4/14937.46	1989-150	// 13:58:11.281
4/31322.40	1990-331	// 17:53:31.736
4/33836.40	1991-050	// 13:05:30.902
4/35093.40	1991-092	// 10:41:30.864
4/36141.10	1991-127	// 08:41:30.926
4/42032.40	1991-323	// 17:53:30.650
4/46013.10	1992-091	// 10:17:30.585
4/51626.35	1992-278	// 13:01:29.027
4/51995.20	1992-290	// 20:01:28.938
4/55466.10	1993-040	// 12:41:28.431
4/56783.01	1993-084	// 10:10:16.135
4/57592.54	1993-111	// 10:04:39.941
5/43691.11	1998-006	// 13:29:59.058
5/63644.41	1999-306	// 16:17:52.146
6/06698.11	2000-227	// 23:53:52.756
6/10035.15	2000-339	// 05:33:03.338

## VOYAGER 1 DUST IMPACTS

PART#/MOD16.MOD60 FILENAME	YYYY-DDD	SCET TIME
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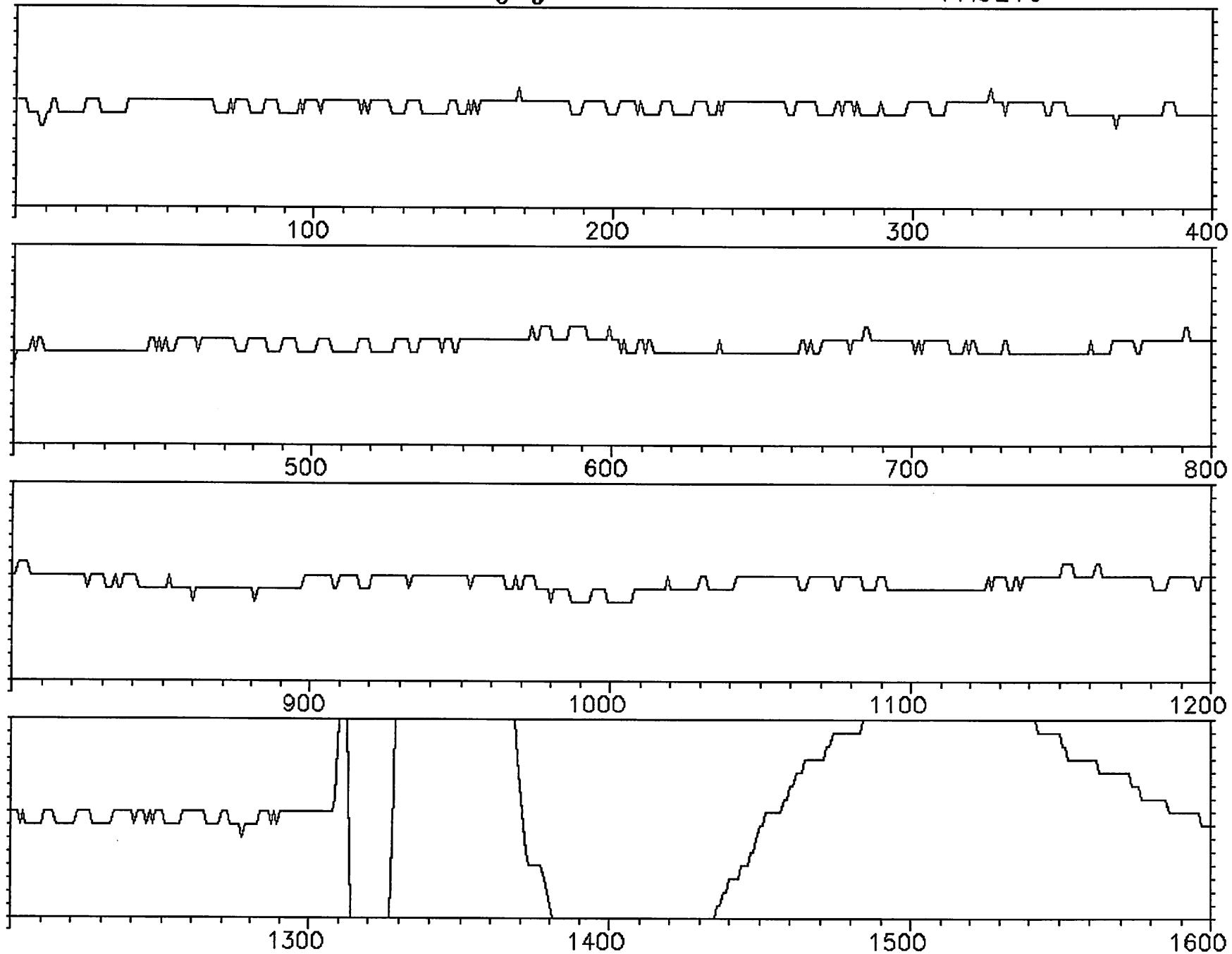
2/27204.35	1980-060	// 00:13:38.204
2/27204.57	1980-060	// 00:31:14.204
2/47474.21	1982-004	// 16:02:18.421
2/51317.18	1982-132	// 18:23:55.054
2/52730.44	1982-179	// 21:08:33.822
2/57825.57	1982-349	// 17:18:57.802
2/59563.05	1983-042	// 15:01:22.009
2/64961.53	1983-222	// 14:03:47.508
3/02939.59	1983-339	// 17:20:36.427
3/06543.56	1984-094	// 20:30:13.332
3/06543.58	1984-094	// 20:31:49.332
3/08936.54	1984-174	// 14:52:34.352
3/17307.56	1985-087	// 15:42:11.958
3/22103.22	1985-247	// 12:02:59.977
3/45775.59	1987-306	// 14:08:37.176
4/01465.49	1988-067	// 12:24:35.958
4/04014.35	1988-152	// 11:25:24.261
4/13013.26	1989-086	// 10:30:11.531
4/14937.46	1989-150	// 13:58:11.281
4/31322.40	1990-331	// 17:53:31.736
4/33836.40	1991-050	// 13:05:30.902
4/35093.40	1991-092	// 10:41:30.864
4/36141.10	1991-127	// 08:41:30.926
4/42032.40	1991-323	// 17:53:30.650
4/46013.10	1992-091	// 10:17:30.585
4/51626.35	1992-278	// 13:01:29.027
4/51995.20	1992-290	// 20:01:28.938
4/55466.10	1993-040	// 12:41:28.431
4/56783.01	1993-084	// 10:10:16.135
4/57592.54	1993-111	// 10:04:39.941
5/43691.11	1998-006	// 13:29:59.058
5/63644.41	1999-306	// 16:17:52.146
6/06698.11	2000-227	// 23:53:52.756

From ljjg@space.physics.uiowa.edu **Thu Mar 2 16:10:53 2000**  
 Received: from phecda.physics.uiowa.edu (phecda [128.255.33.25])  
     by kochab.physics.uiowa.edu (8.9.3+Sun/8.9.1) with ESMTP id QAA16496;  
     Thu, 2 Mar 2000 16:10:52 -0600 (CST)  
 Received: (from ljjg@localhost)  
     by phecda.physics.uiowa.edu (8.9.3+Sun/8.9.1) id QAA18971;  
     Thu, 2 Mar 2000 16:10:52 -0600 (CST)  
 Date: Thu, 2 Mar 2000 16:10:52 -0600 (CST)  
 Message-Id: <200003022210.QAA18971@phecda.physics.uiowa.edu>  
 From: ljjg@space.physics.uiowa.edu  
 To: amp@space.physics.uiowa.edu, jaa@space.physics.uiowa.edu  
 Subject: V1 dust events (revised)  
 Content-Length: 2208  
 X-Lines: 35  
 Status: RO

#### **VOYAGER-1 DUST IMPACT EVENTS**

SCLK	SCET	R_AU	SE_LON	SE_LAT
2/27204:35:719	1980-060 00:14:21.284	7.34	167.16	1.99
2/27204:57:170	1980-060 00:31:24.344	7.34	167.16	1.99
2/47474:21:145	1982-004 16:02:27.061	12.09	201.94	15.68
2/51317:18:425	1982-132 18:24:20.494	13.09	206.52	18.40
2/52730:44:334	1982-179 21:08:53.802	13.48	208.06	19.27
2/57825:57:687	1982-349 17:19:38.962	14.93	213.04	21.94
2/59563:05:078	1983-042 15:01:26.629	15.44	214.55	22.71
2/64961:53:036	1983-222 14:03:49.608	17.06	218.76	24.72
3/02939:59:784	1983-339 17:21:23.407	18.15	221.15	25.78
3/06543:56:379	1984-094 20:30:36.012	19.28	223.35	26.70
3/06543:58:391	1984-094 20:32:12.732	19.28	223.35	26.70
3/08936:54:672	1984-174 14:53:14.612	20.04	224.69	27.25
3/17307:56:196	1985-087 15:42:23.658	22.73	228.75	28.78
3/22103:22:730	1985-247 12:03:43.717	24.28	230.71	29.46
3/45775:59:209	1987-306 14:08:49.656	32.07	237.75	31.61
4/01465:49:033	1988-067 12:24:37.878	33.32	238.59	31.83
4/04014:35:579	1988-152 11:25:58.941	34.16	239.12	31.97
4/13013:26:132	1989-086 10:30:19.391	37.15	240.82	32.40
4/14937:46:236	1989-150 13:58:25.381	37.79	241.15	32.47
4/31322:40:099	1990-331 17:53:37.616	43.23	243.58	33.03
4/33836:40:162	1991-050 13:05:40.562	44.06	243.90	33.10
4/35093:40:152	1991-092 10:41:39.924	44.48	244.06	33.13
4/36141:10:158	1991-127 08:41:40.346	44.83	244.19	33.16
4/42032:40:328	1991-323 17:53:50.270	46.78	244.88	33.30
4/46013:10:043	1992-091 10:17:33.105	48.10	245.31	33.39
4/51626:35:463	1992-278 13:01:56.747	49.97	245.89	33.50
4/51995:20:747	1992-290 20:02:13.698	50.09	245.93	33.51
4/55466:10:161	1993-040 12:41:38.031	51.24	246.26	33.57
4/56783:01:088	1993-084 10:10:21.355	51.68	246.39	33.60
4/57592:54:655	1993-111 10:05:19.181	51.95	246.46	33.61
5/43691:11:499	1998-006 13:30:28.938	69.02	250.06	34.24

```
~/vgr/vx/dust% v1scet < vg1-hits.txt
2/27204:35:719 1980-060 // 00:14:21.284
2/27204:57:170 1980-060 // 00:31:24.344
2/47474:21:145 1982-004 // 16:02:27.061
2/51317:18:425 1982-132 // 18:24:20.494
2/52730:44:334 1982-179 // 21:08:53.802
2/57825:57:687 1982-349 // 17:19:38.962
2/59563:05:078 1983-042 // 15:01:26.629
2/64961:53:036 1983-222 // 14:03:49.608
3/02939:59:784 1983-339 // 17:21:23.407
3/06543:56:379 1984-094 // 20:30:36.012
3/06543:58:391 1984-094 // 20:32:12.732
3/08936:54:672 1984-174 // 14:53:14.612
3/17307:56:196 1985-087 // 15:42:23.658
3/22103:22:730 1985-247 // 12:03:43.717
3/45775:59:209 1987-306 // 14:08:49.656
4/01465:49:033 1988-067 // 12:24:37.878
4/04014:35:579 1988-152 // 11:25:58.941
4/13013:26:132 1989-086 // 10:30:19.391
4/14937:46:236 1989-150 // 13:58:25.381
4/31322:40:099 1990-331 // 17:53:37.616
4/33836:40:162 1991-050 // 13:05:40.562
4/35093:40:152 1991-092 // 10:41:39.924
4/36141:10:158 1991-127 // 08:41:40.346
4/42032:40:328 1991-323 // 17:53:50.270
4/46013:10:043 1992-091 // 10:17:33.105
4/51626:35:463 1992-278 // 13:01:56.747
4/51995:20:747 1992-290 // 20:02:13.698
4/55466:10:161 1993-040 // 12:41:38.031
4/56783:01:088 1993-084 // 10:10:21.355
4/57592:54:655 1993-111 // 10:05:19.181
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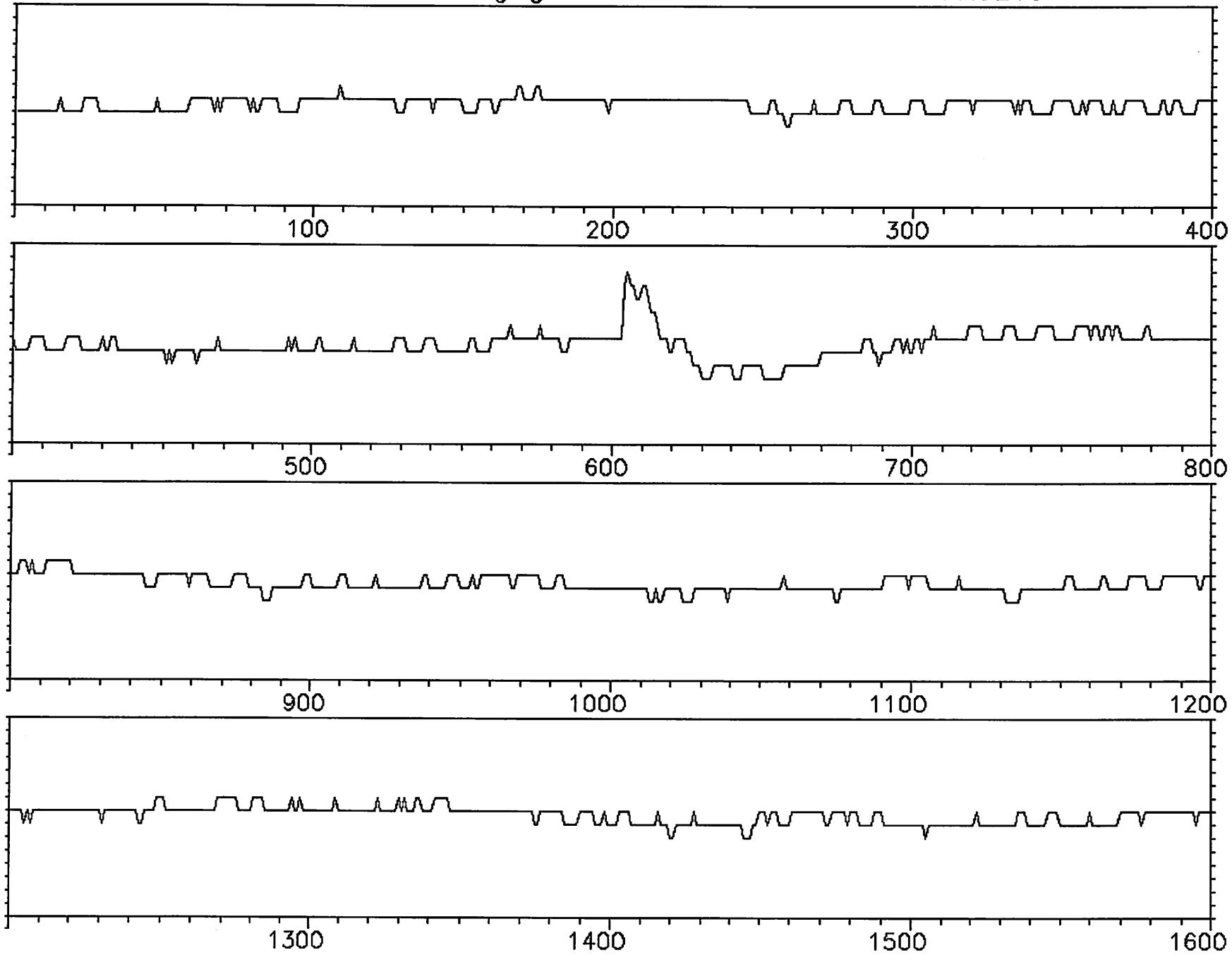


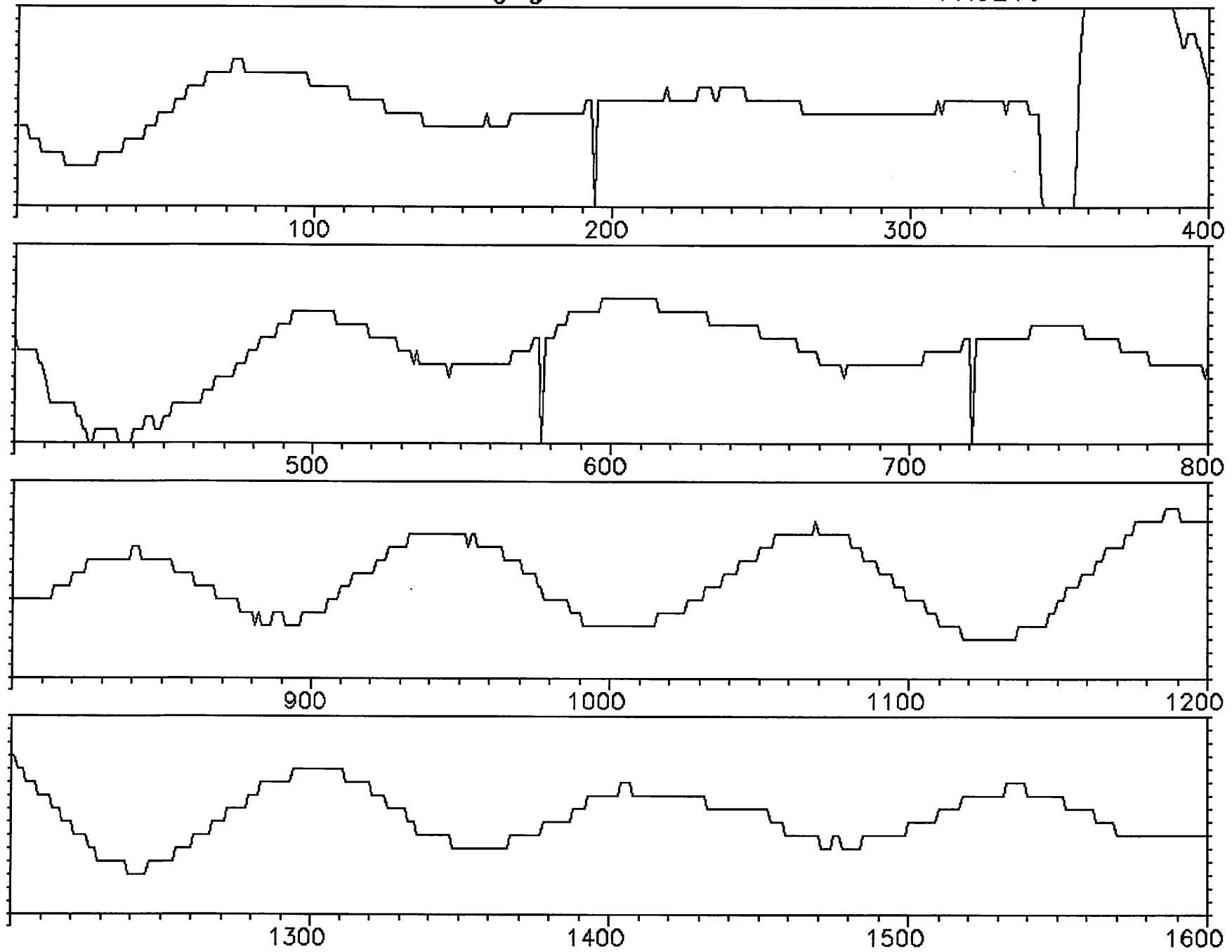
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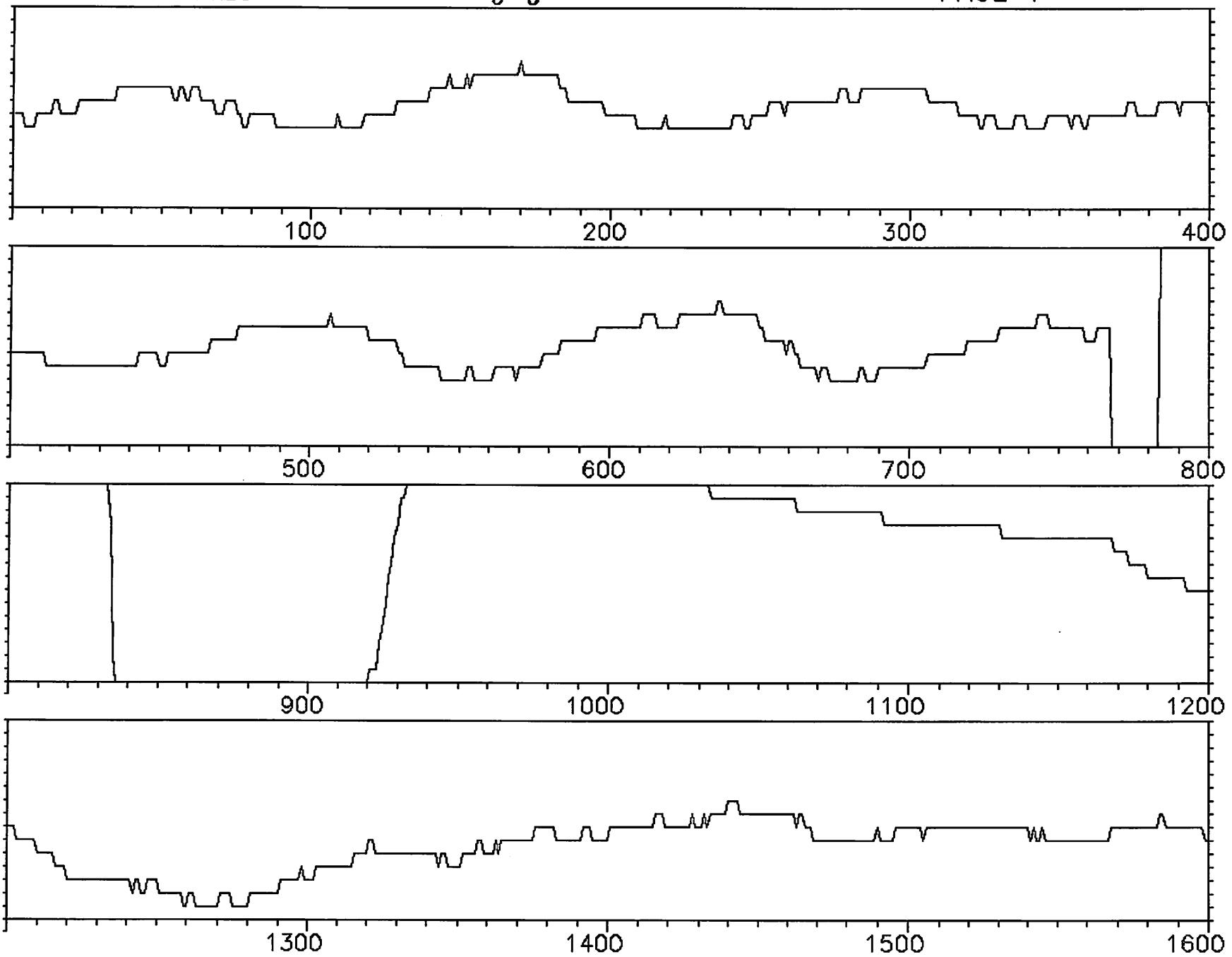
Voyagers

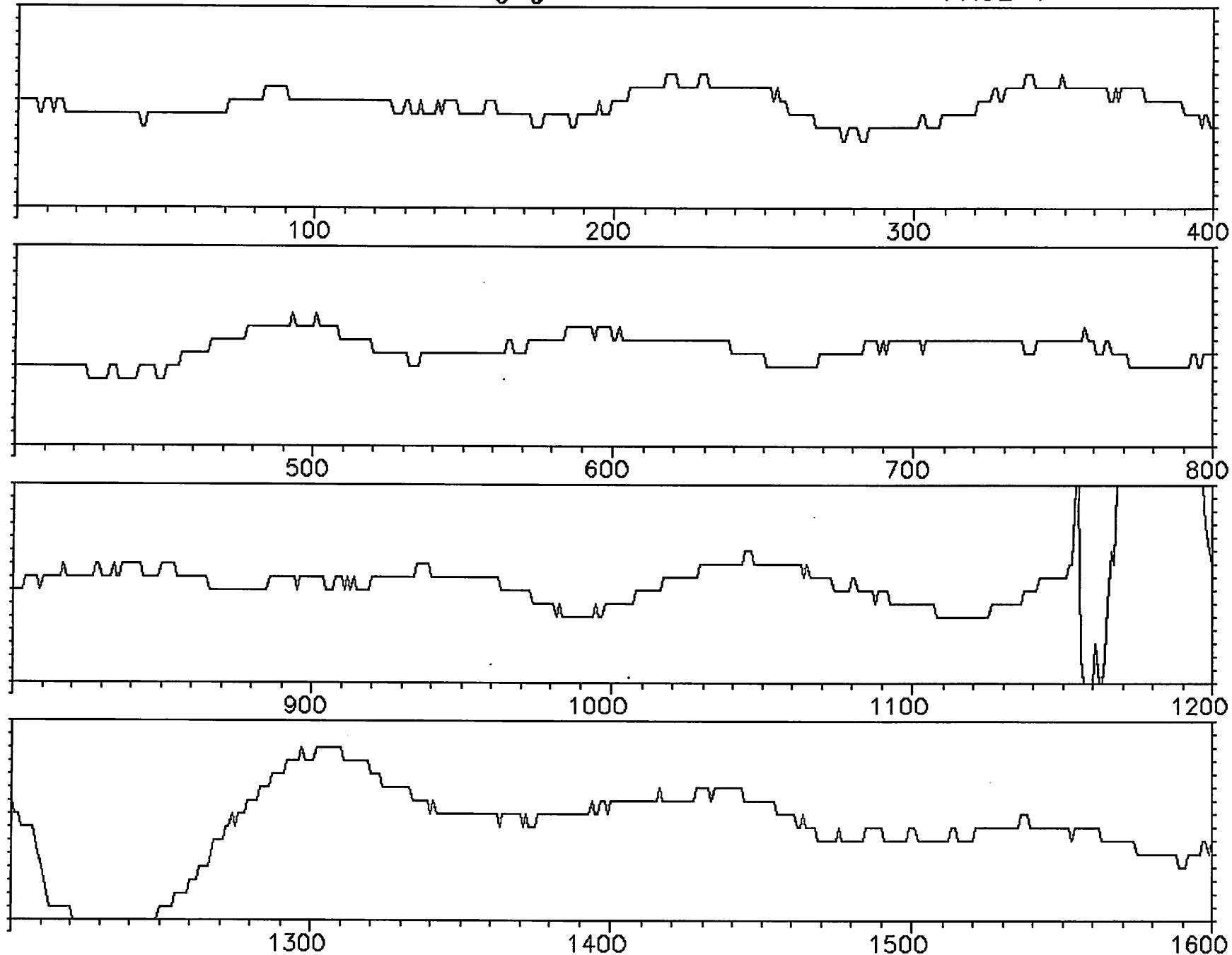
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PAGE10









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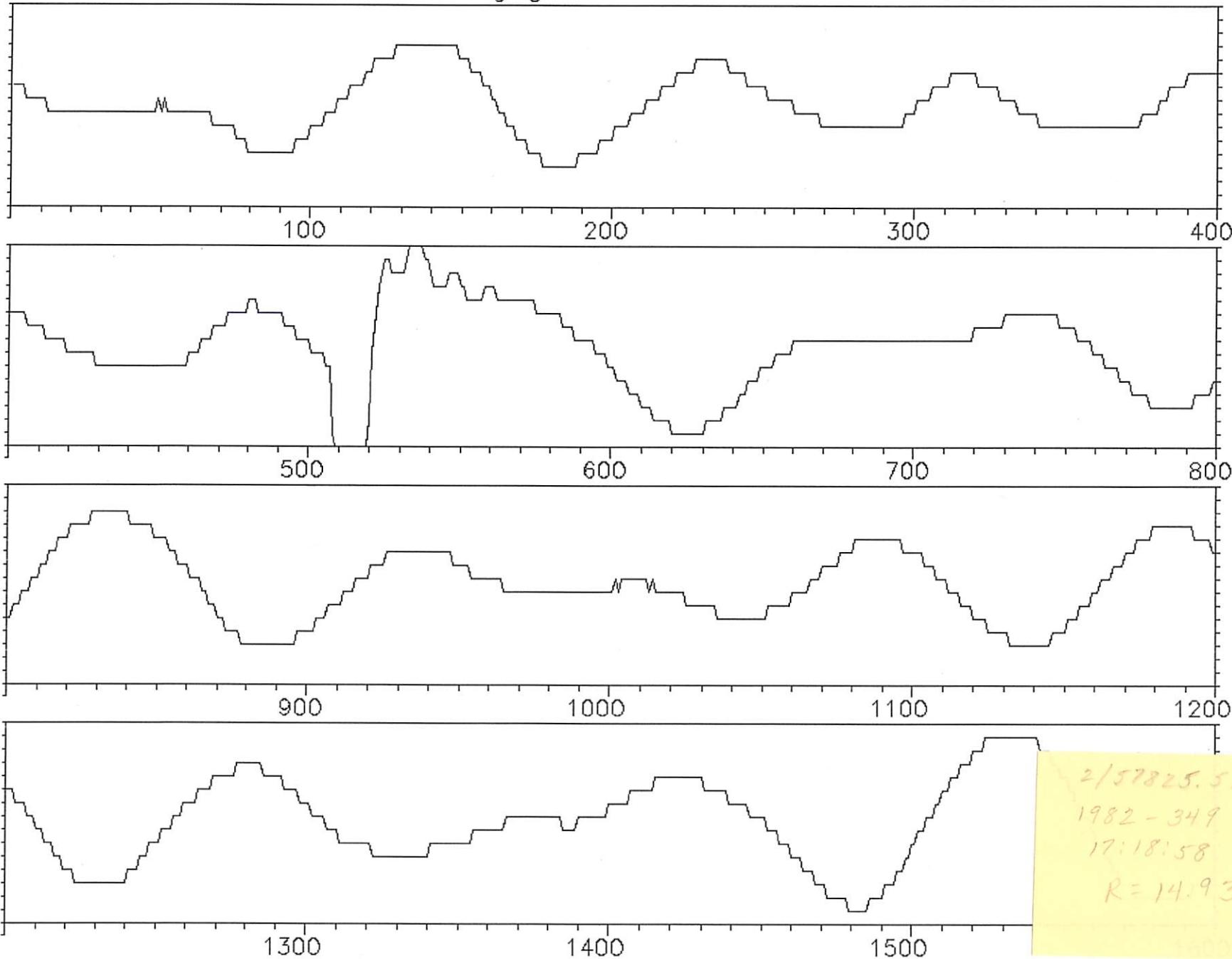
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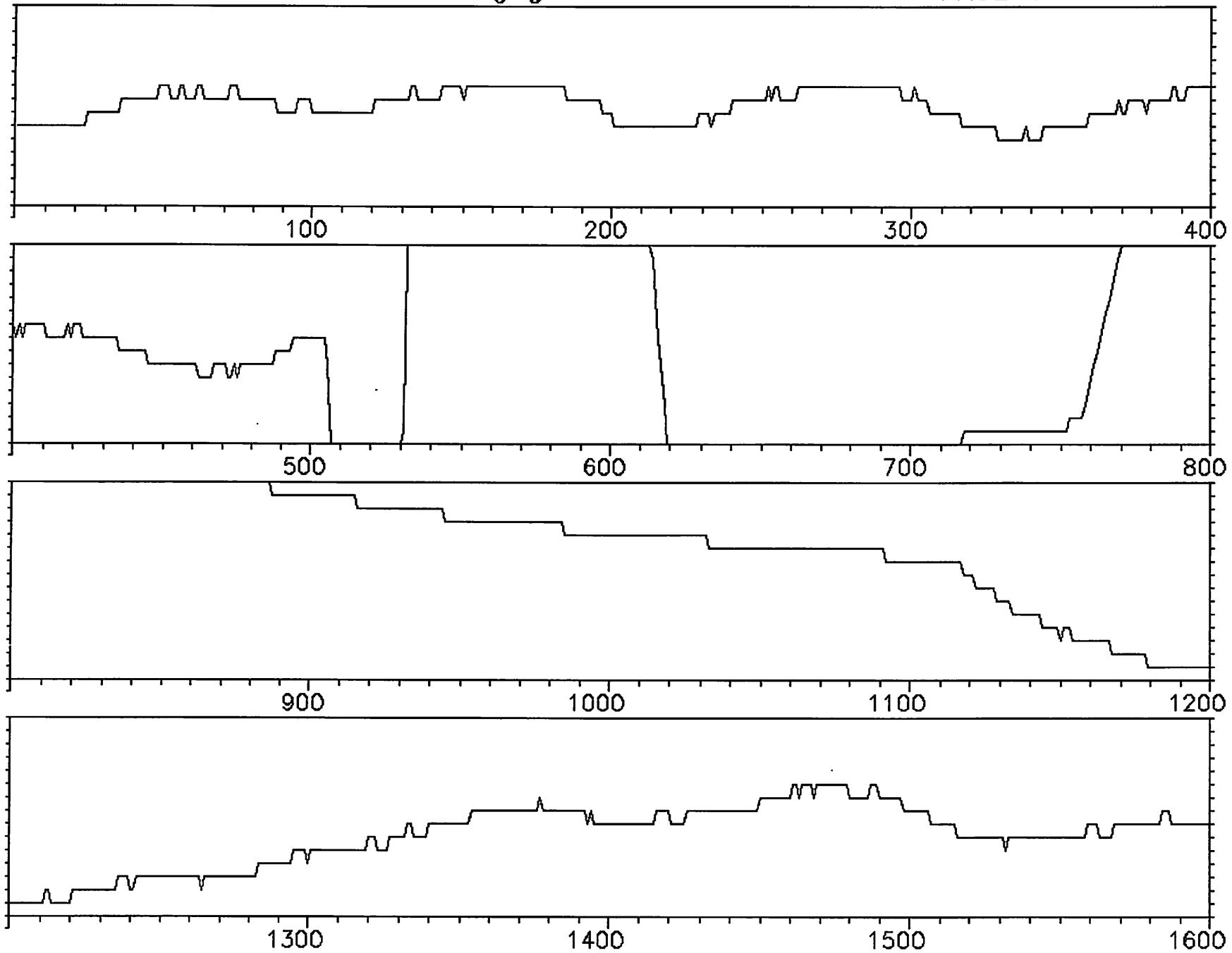
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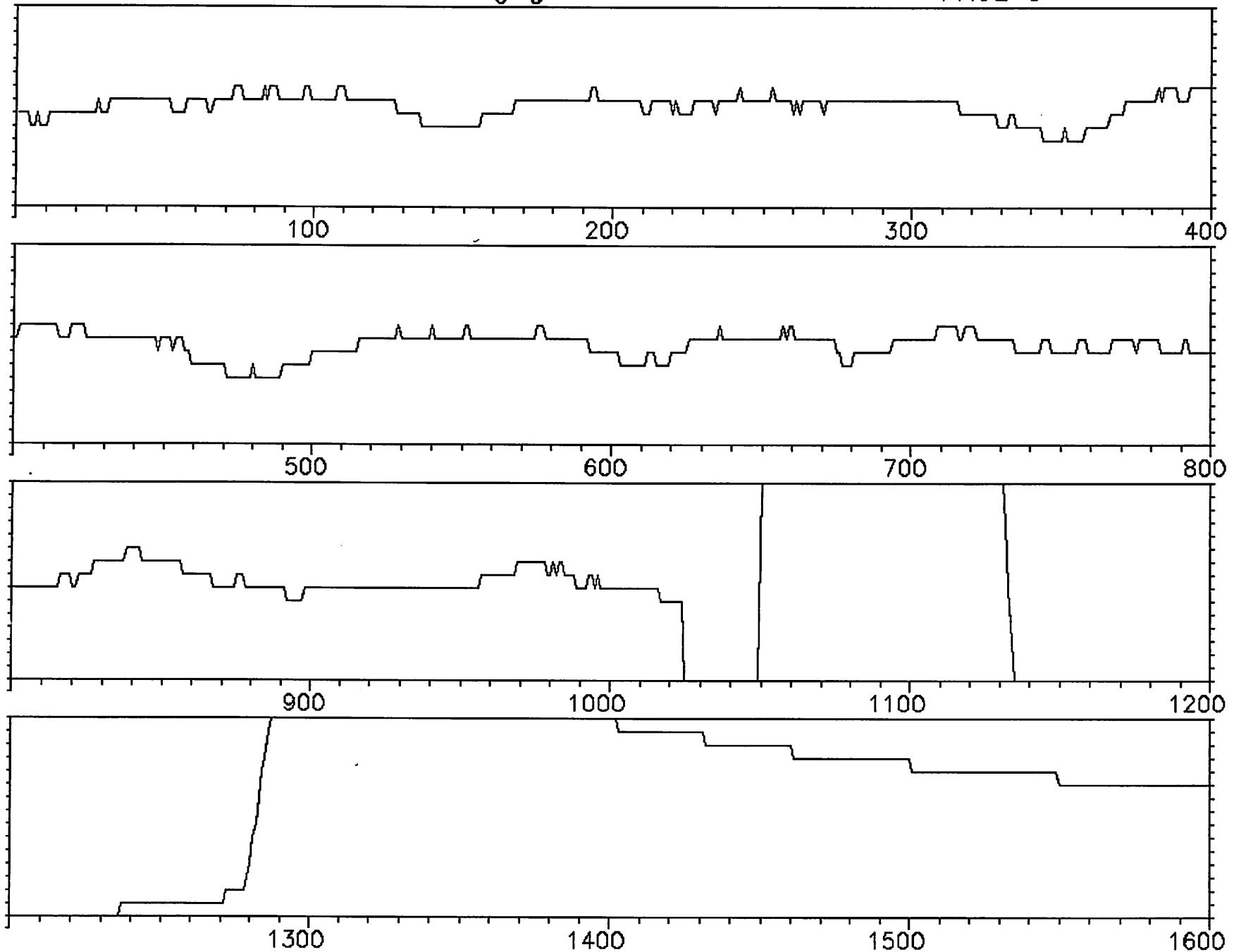
Dust

PAGE 3



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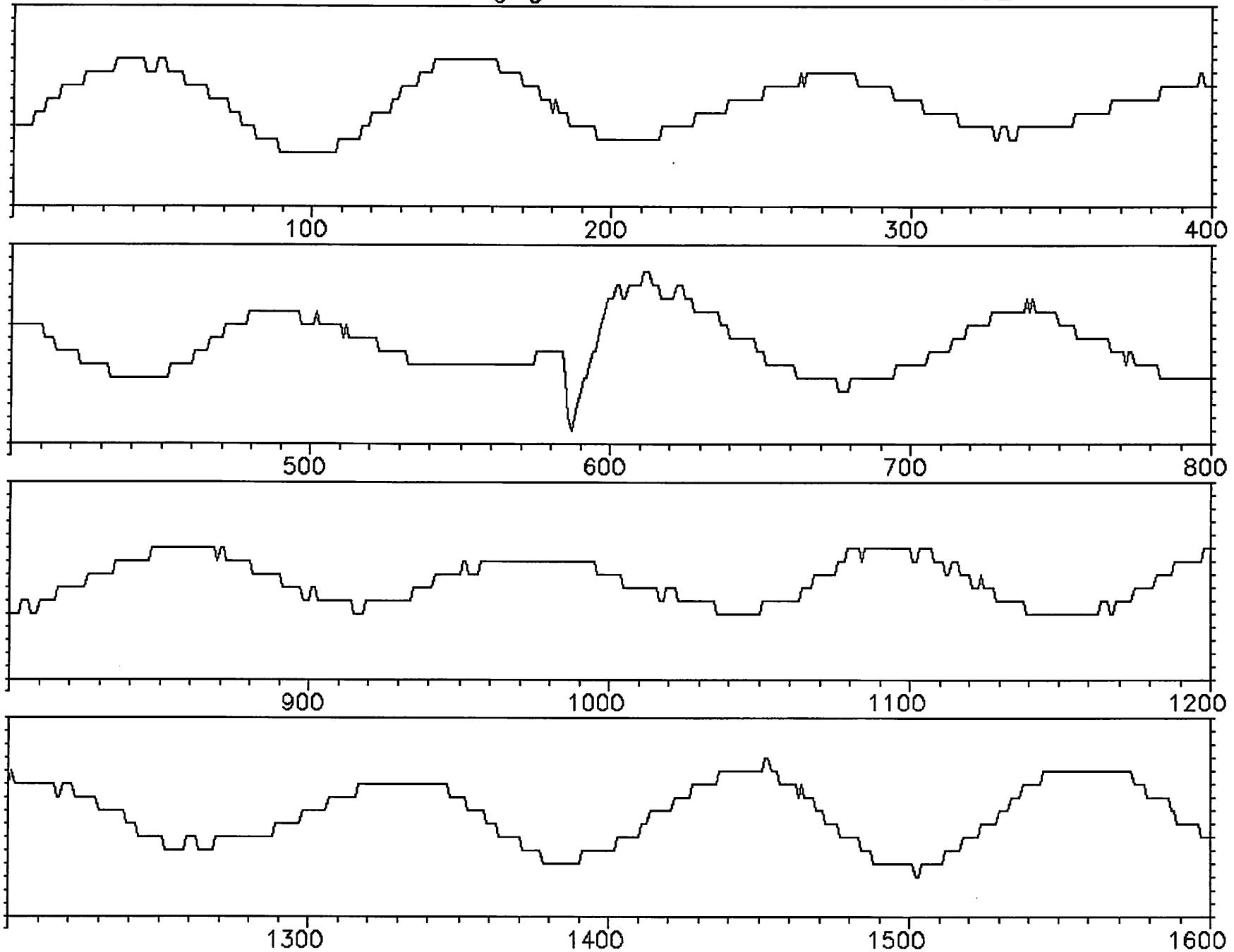


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*Voyagers*

*Dust*

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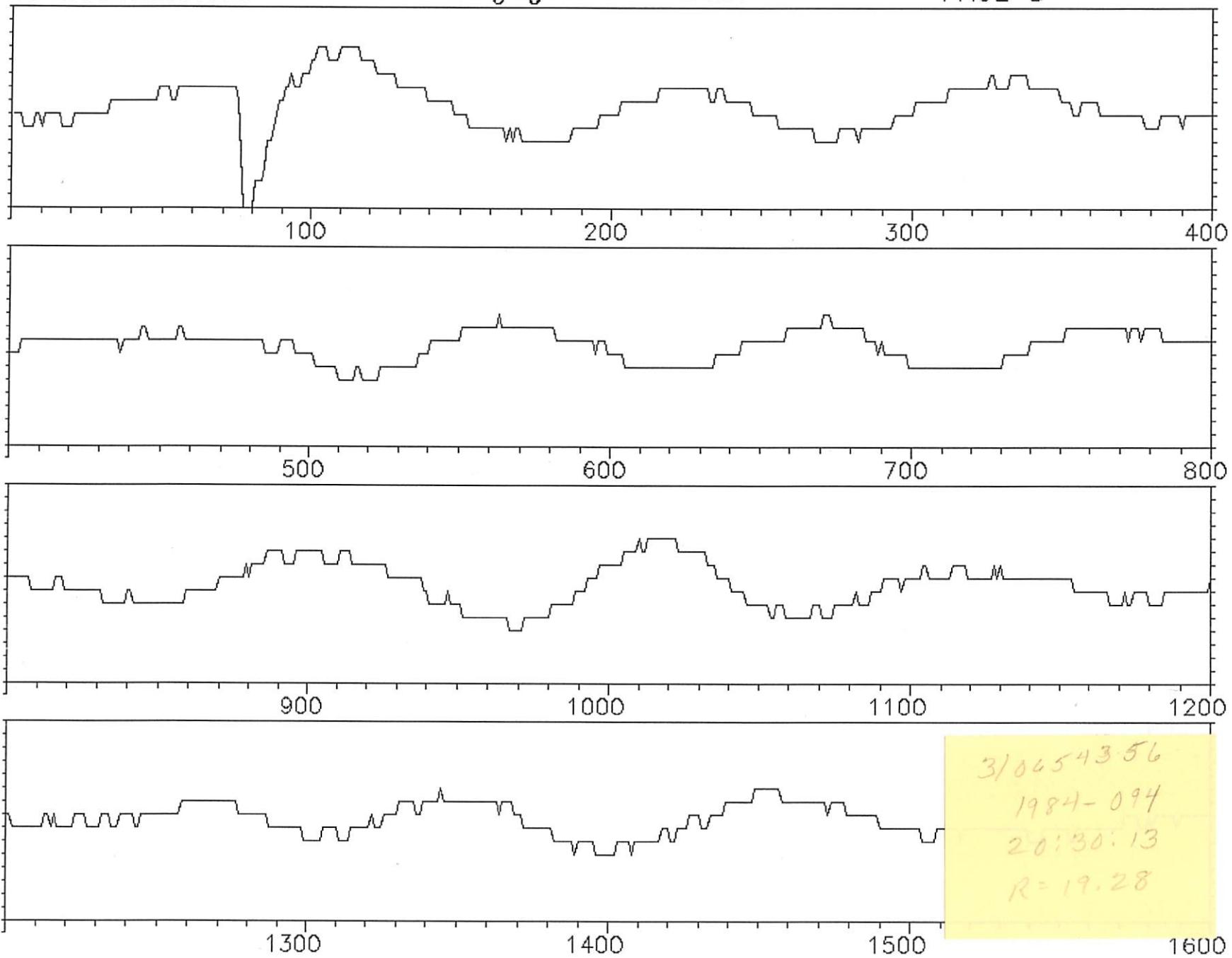
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Voyagers

Dust

PAGE 8

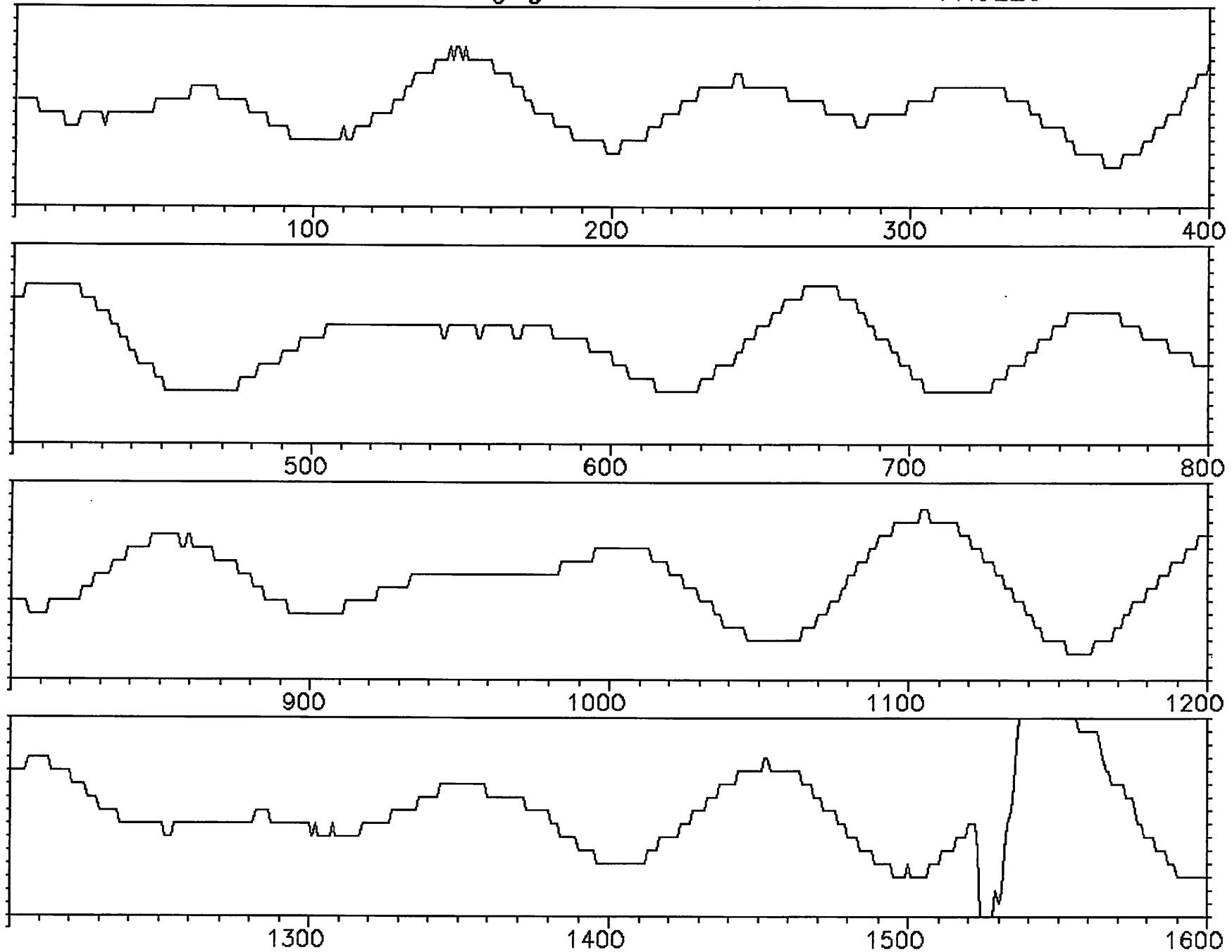


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Voyagers

Dust

PAGE20



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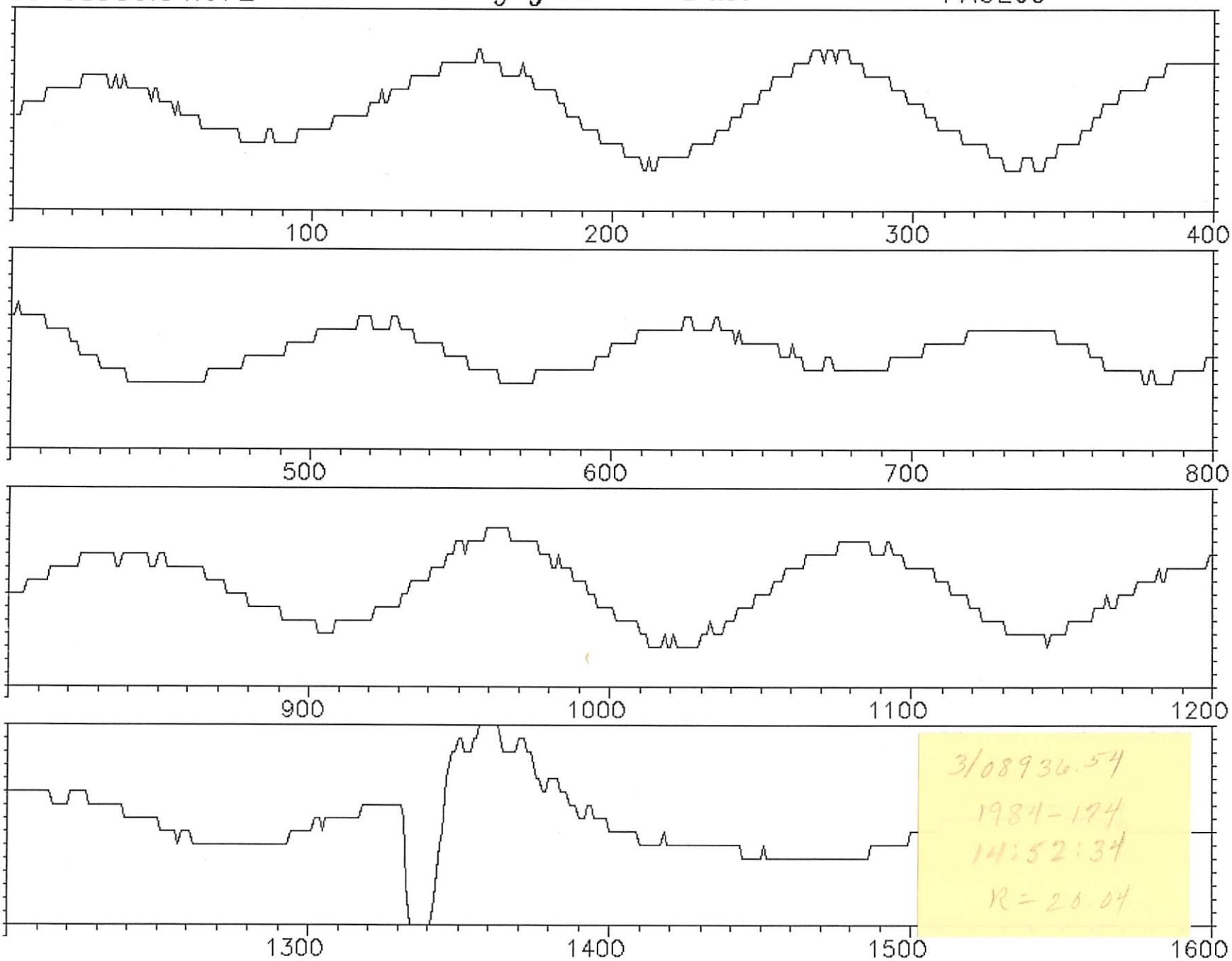
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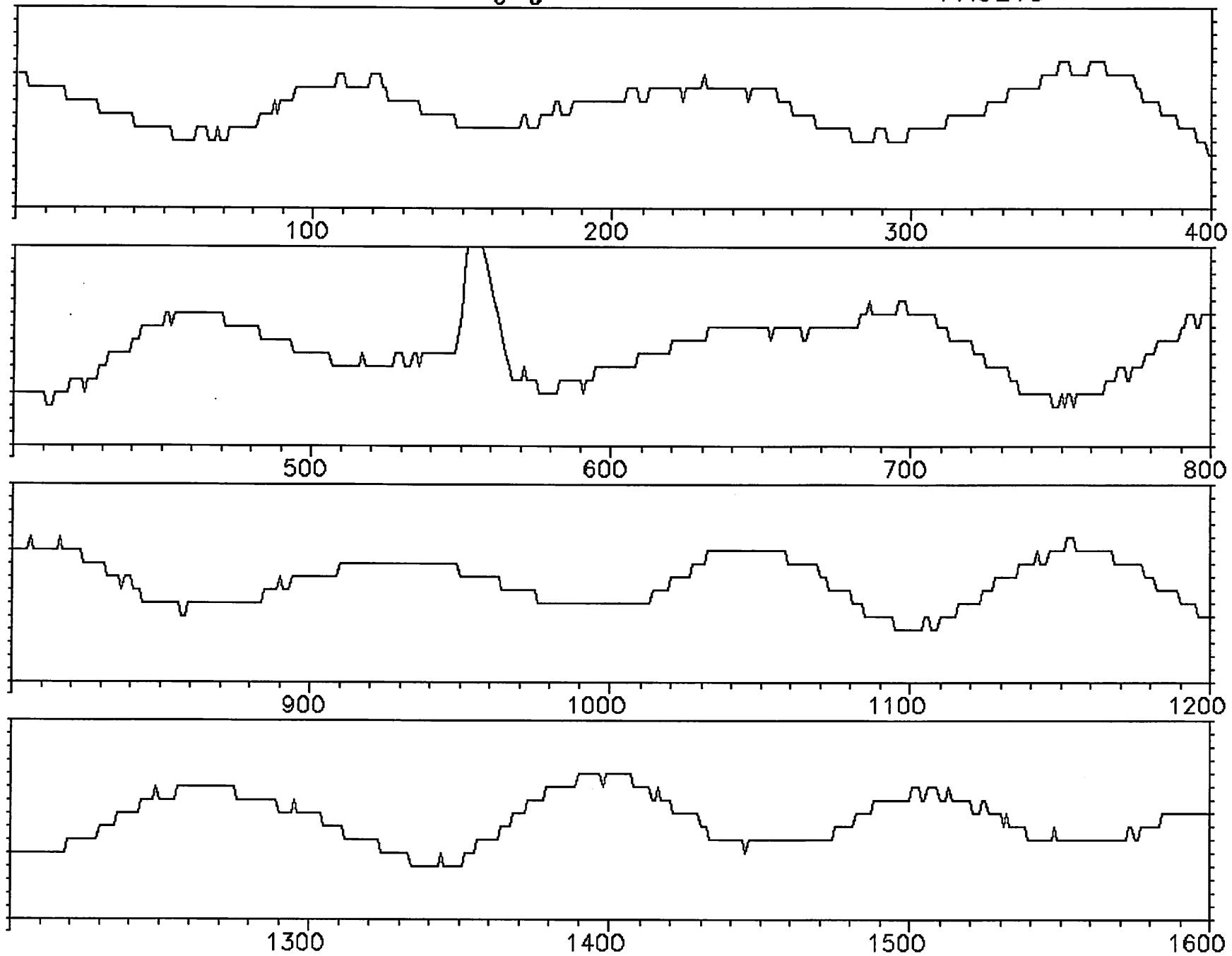
Voyagers

Dust

PAGE69



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3/22 103.22

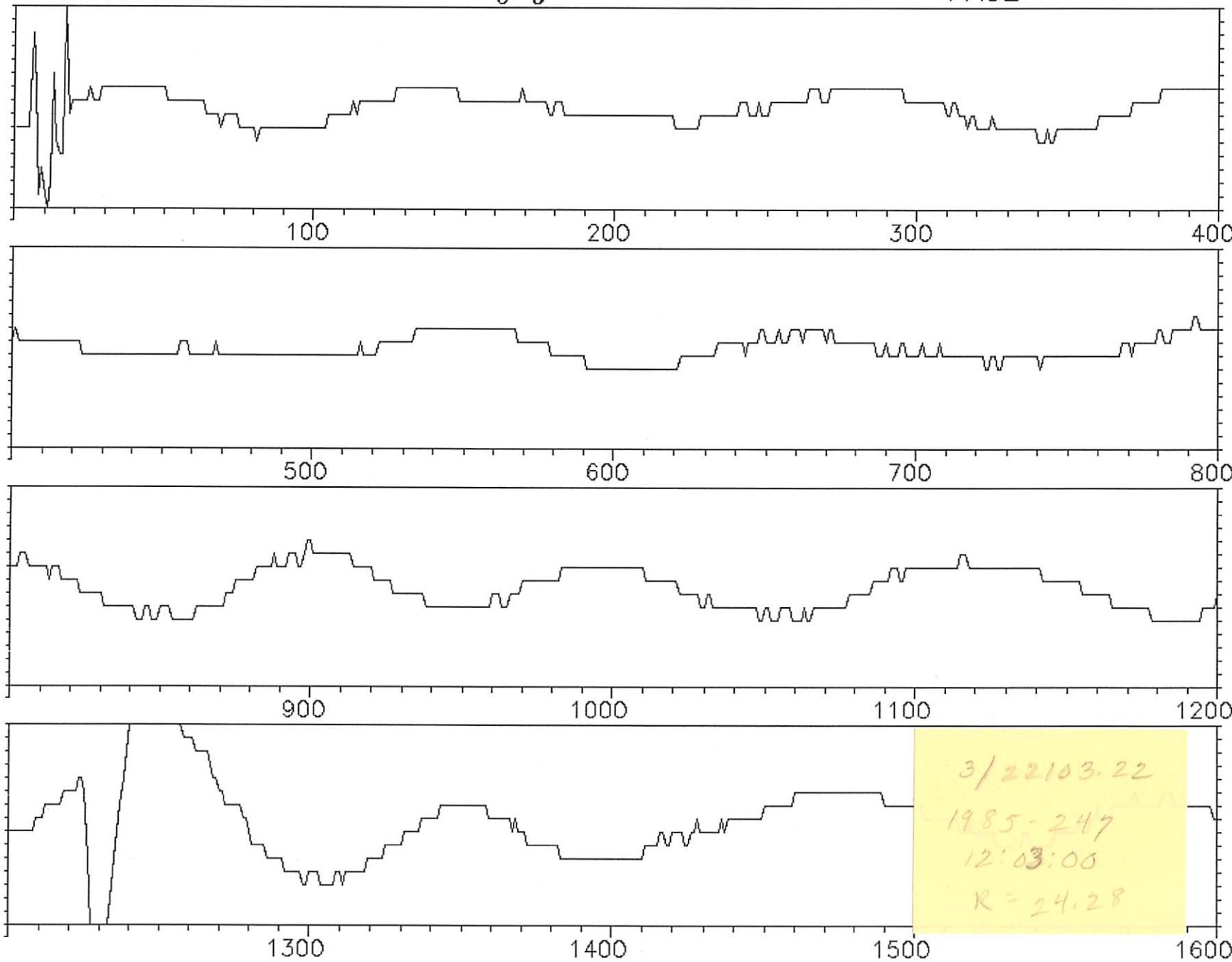
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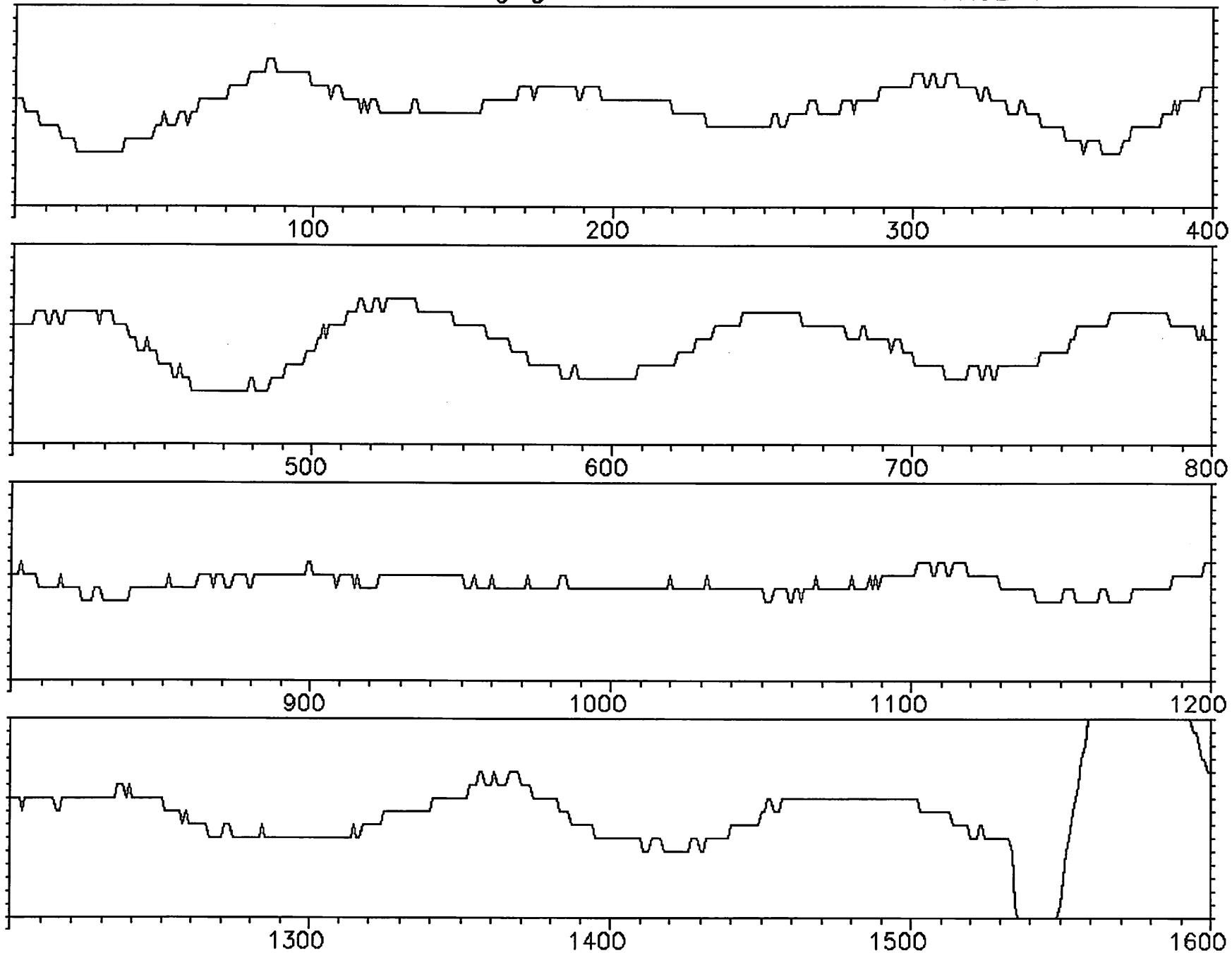
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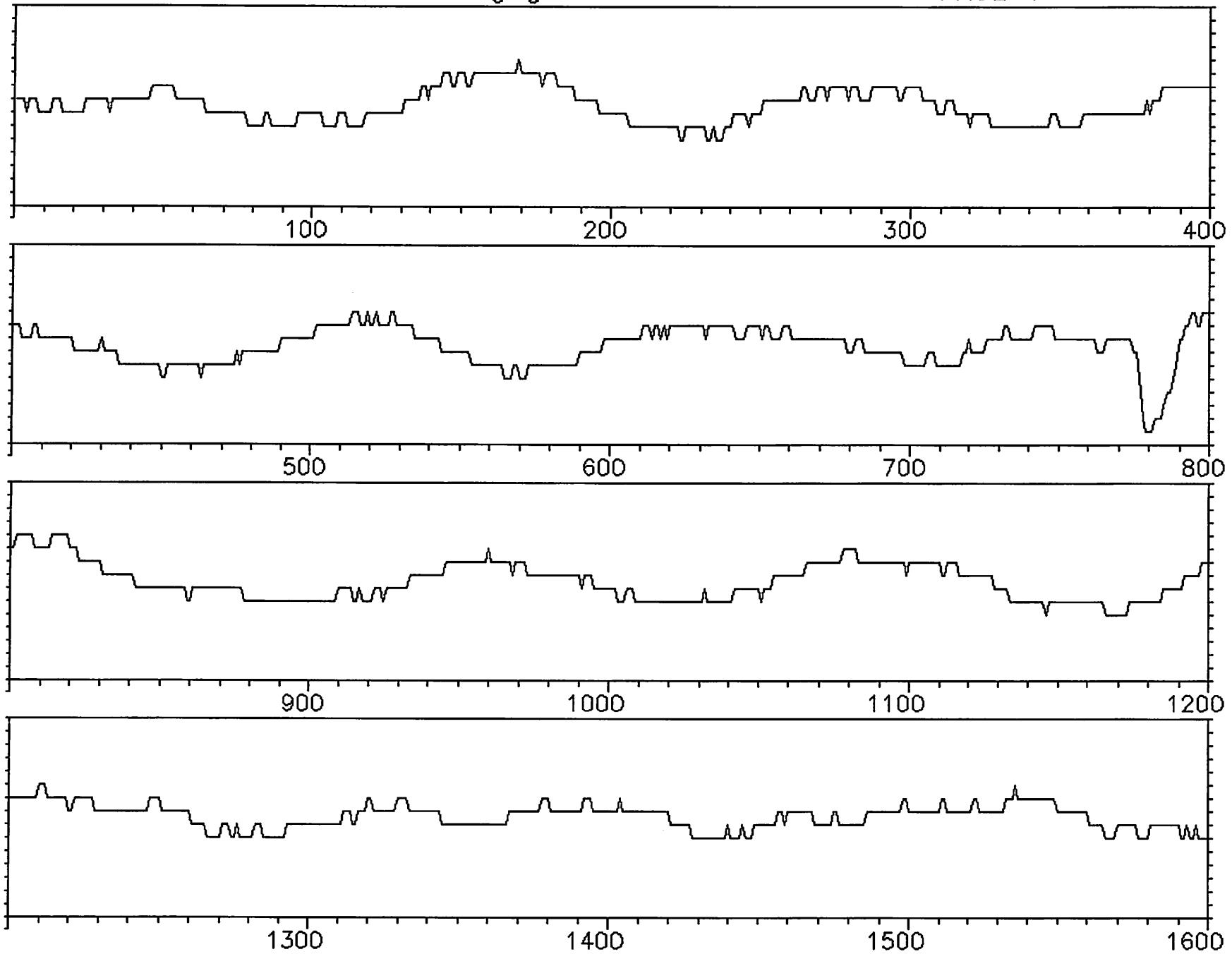
Voyagers

Dust

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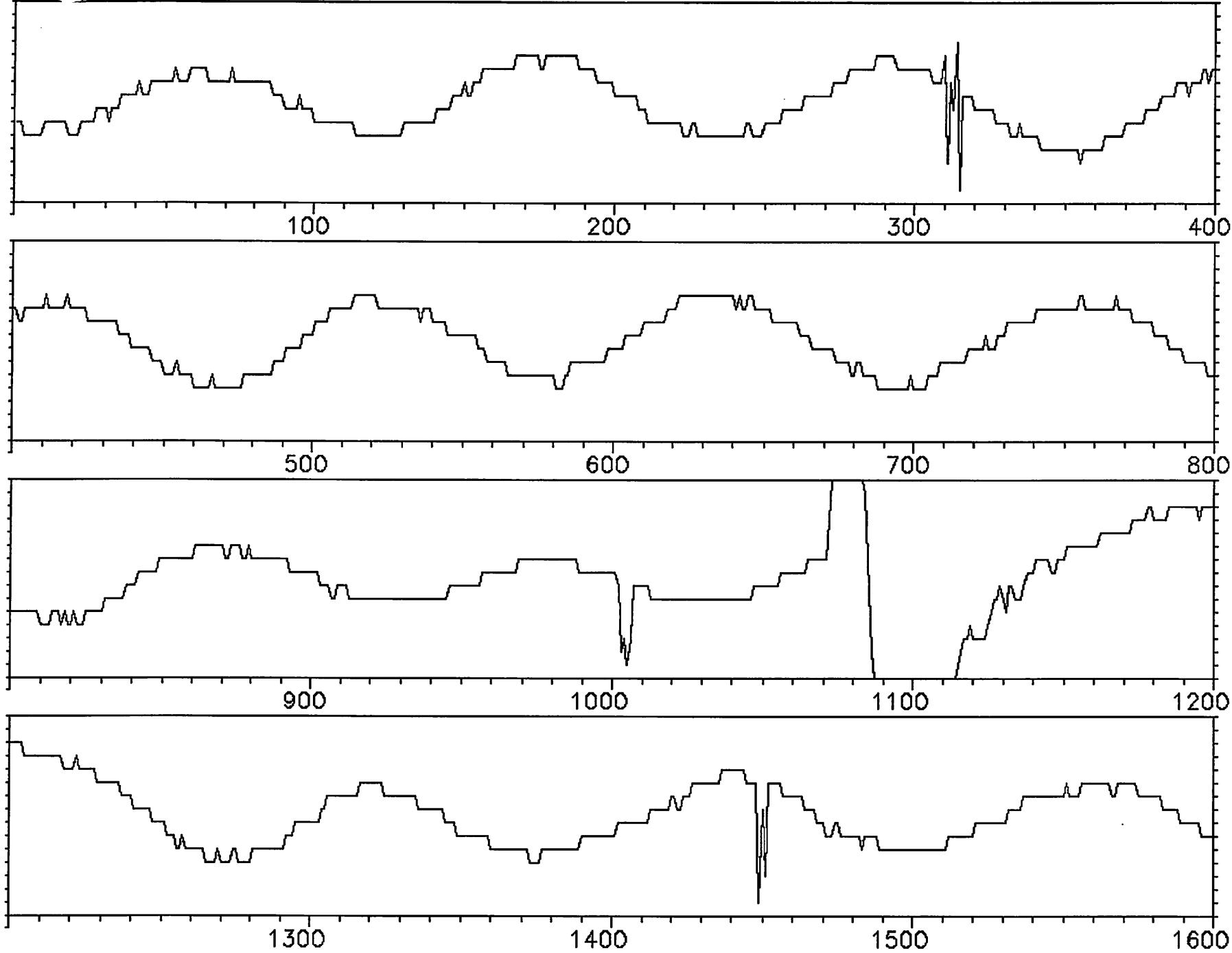
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014.35.579

Voyagers

Dust

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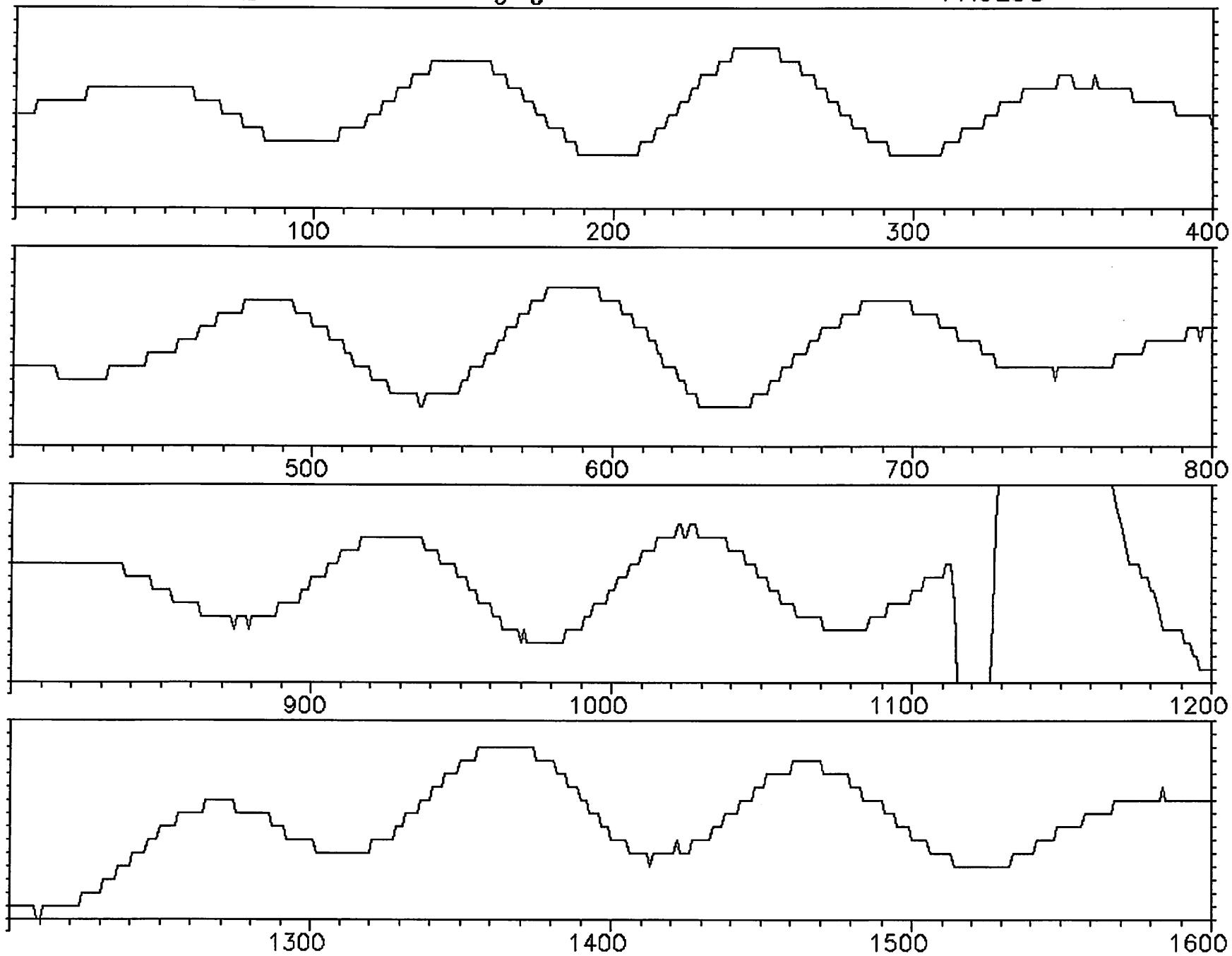


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Voyagers

Dust

PAGE38

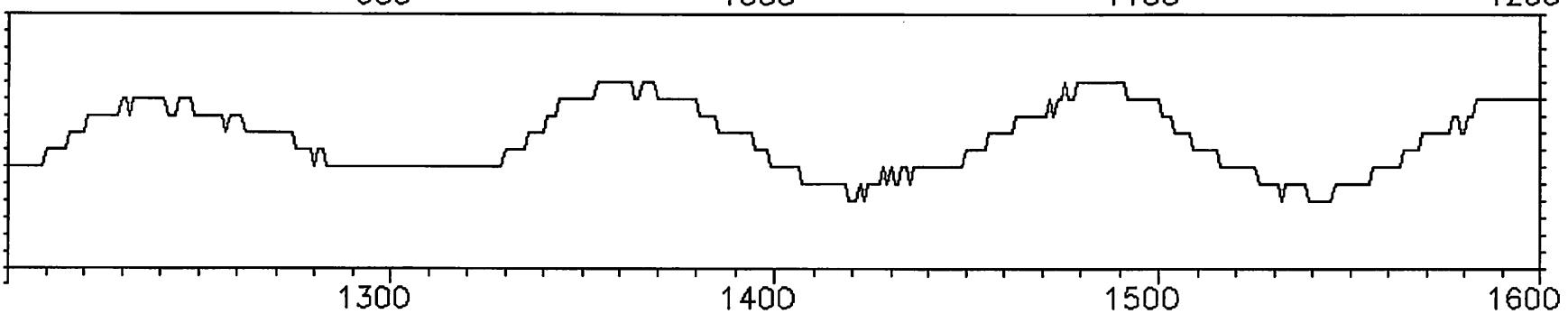
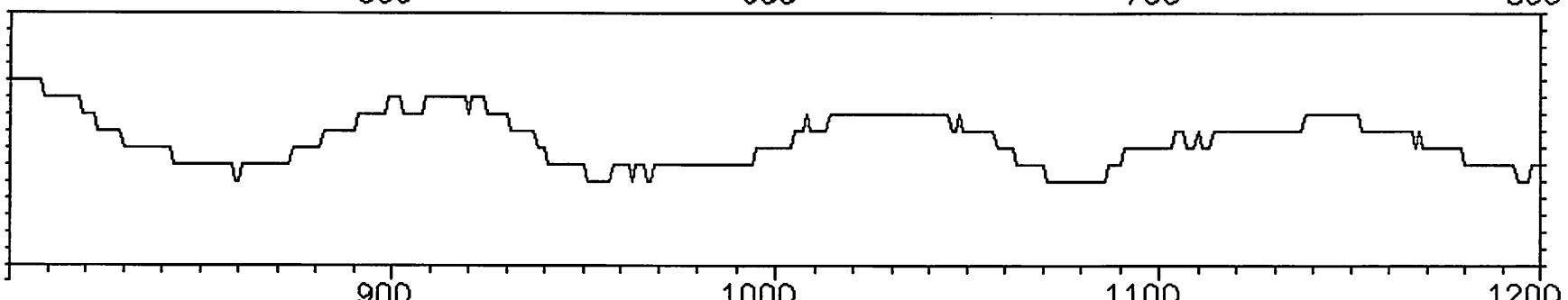
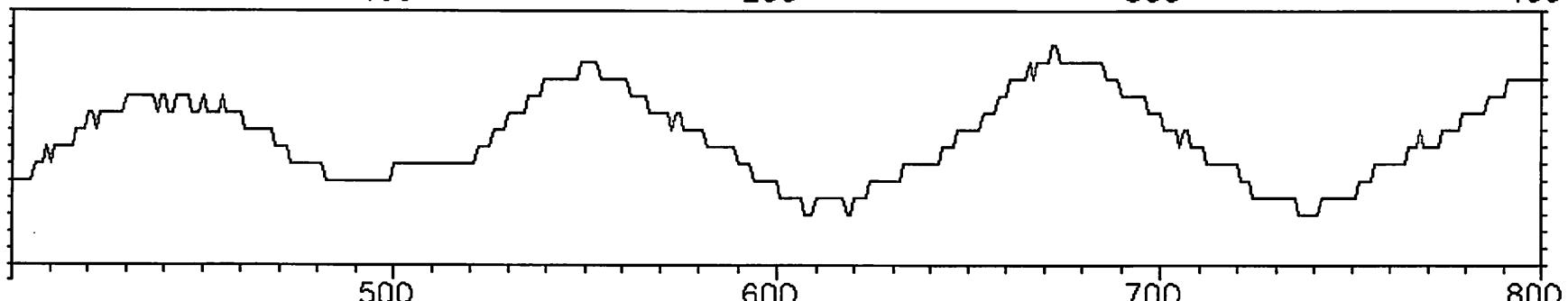
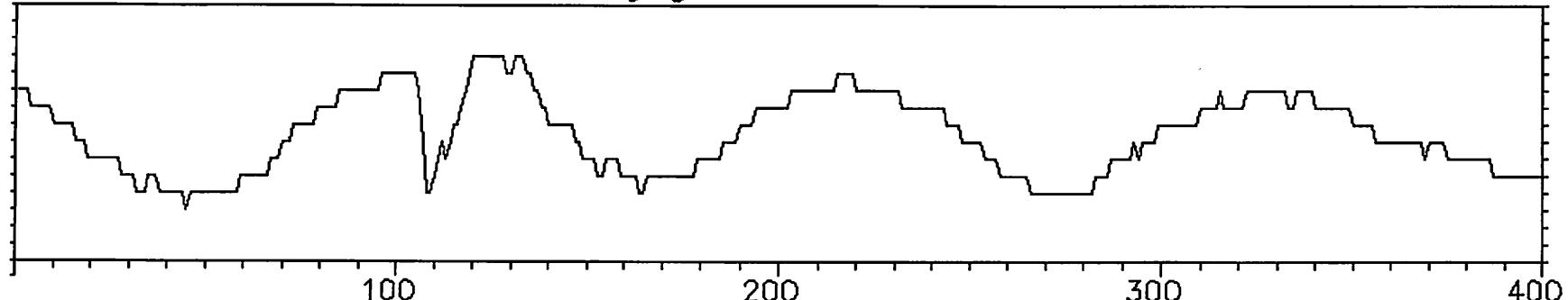


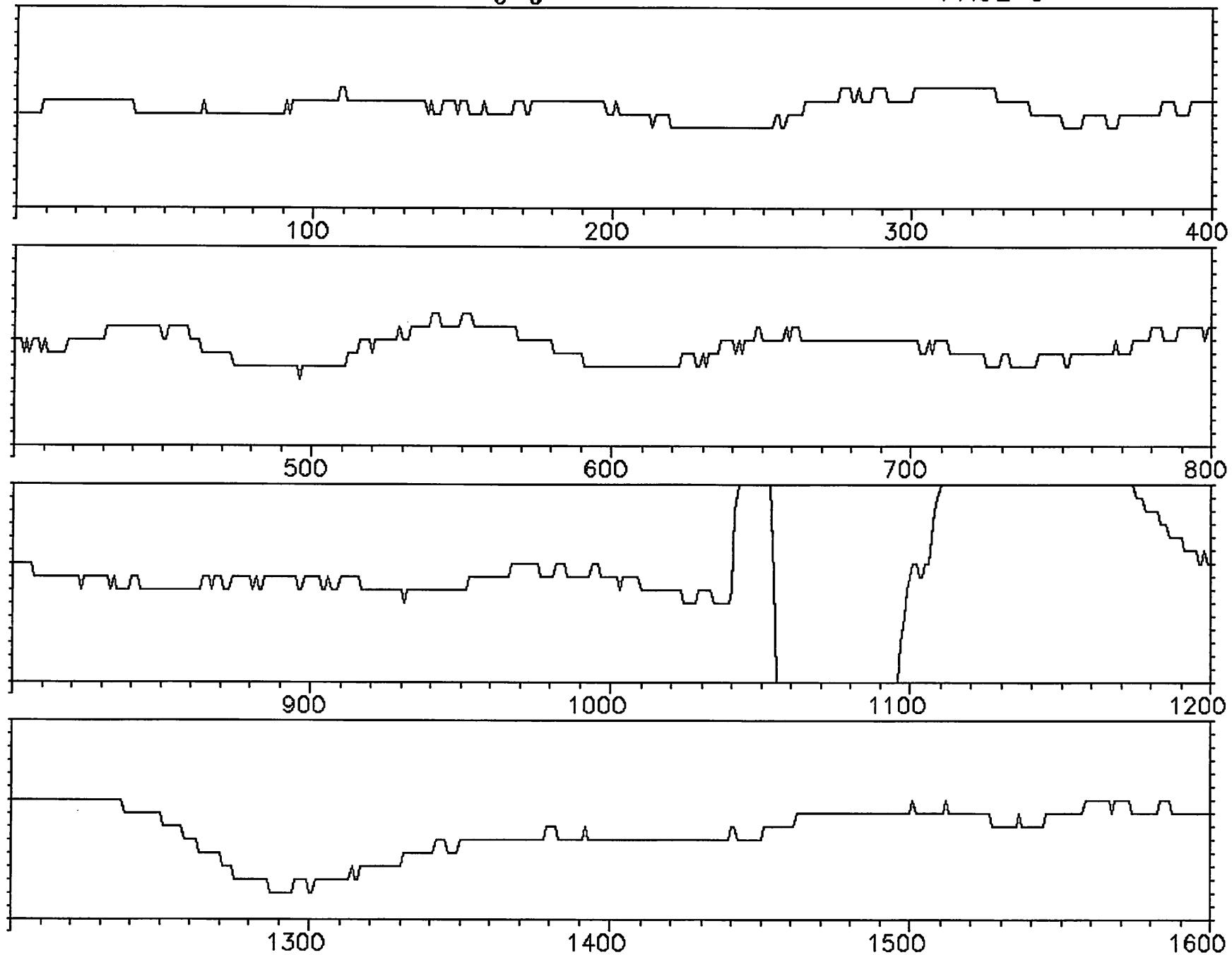
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Voyagers

Dust

PAGE 6





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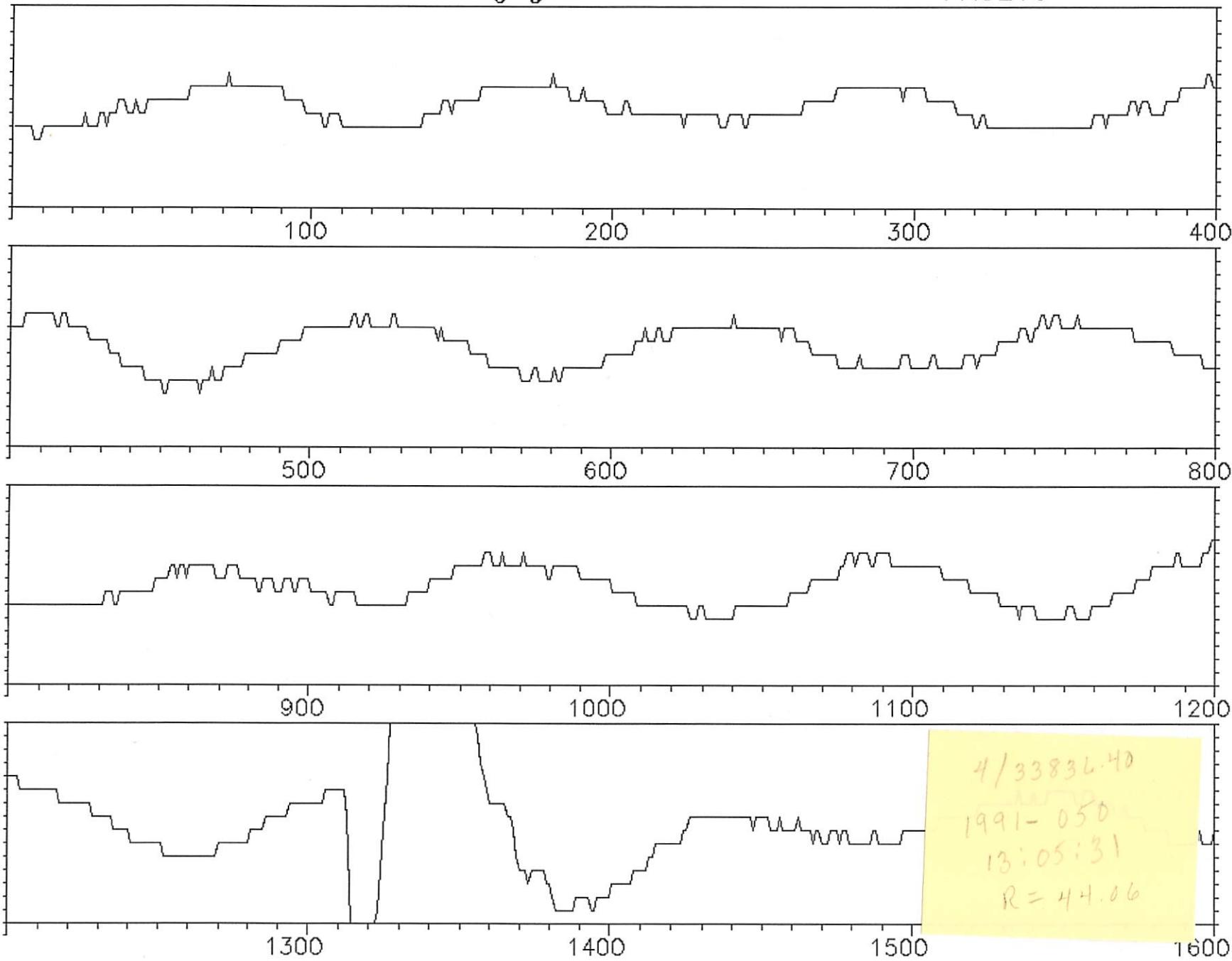
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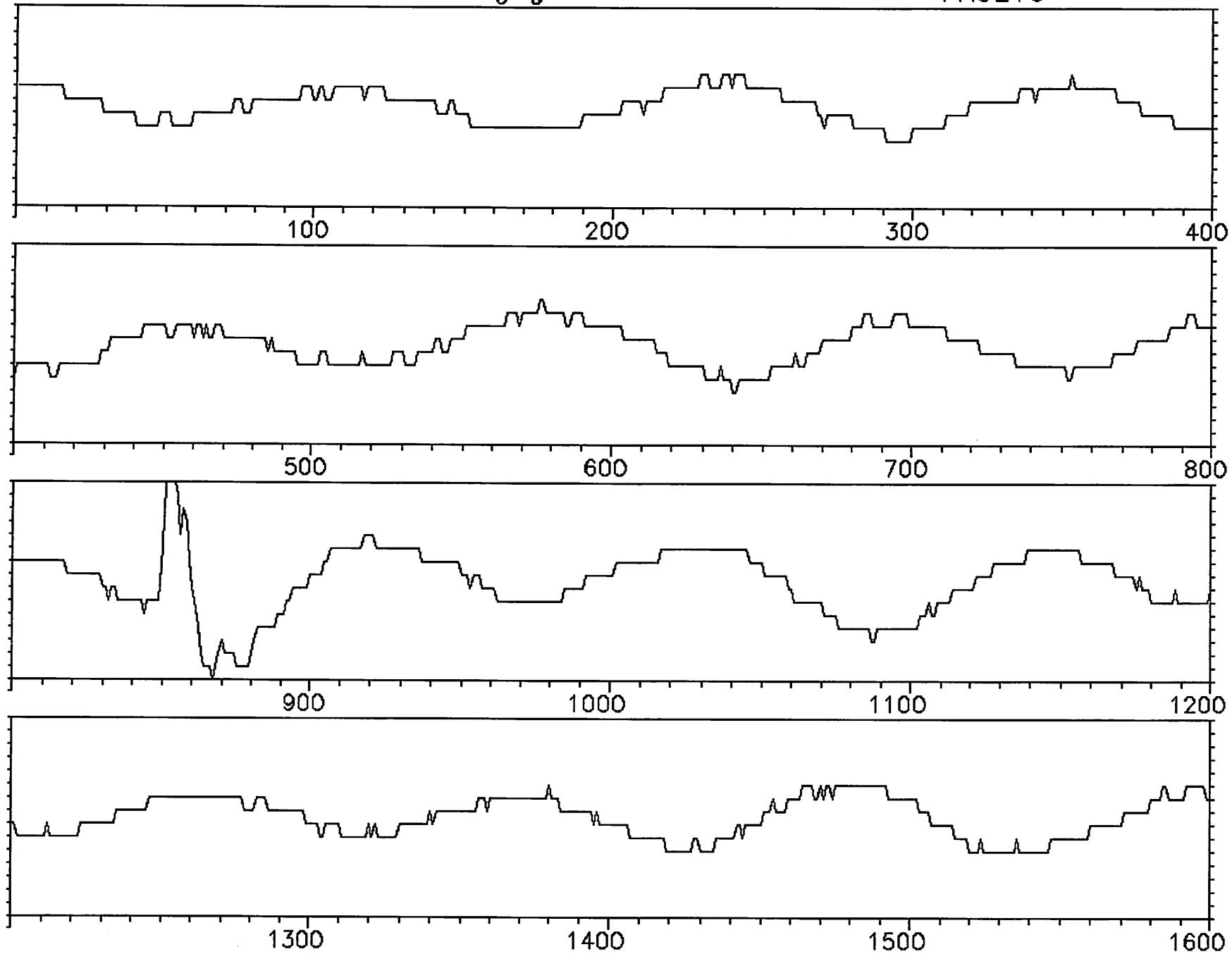
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Voyagers

Dust

PAGE16



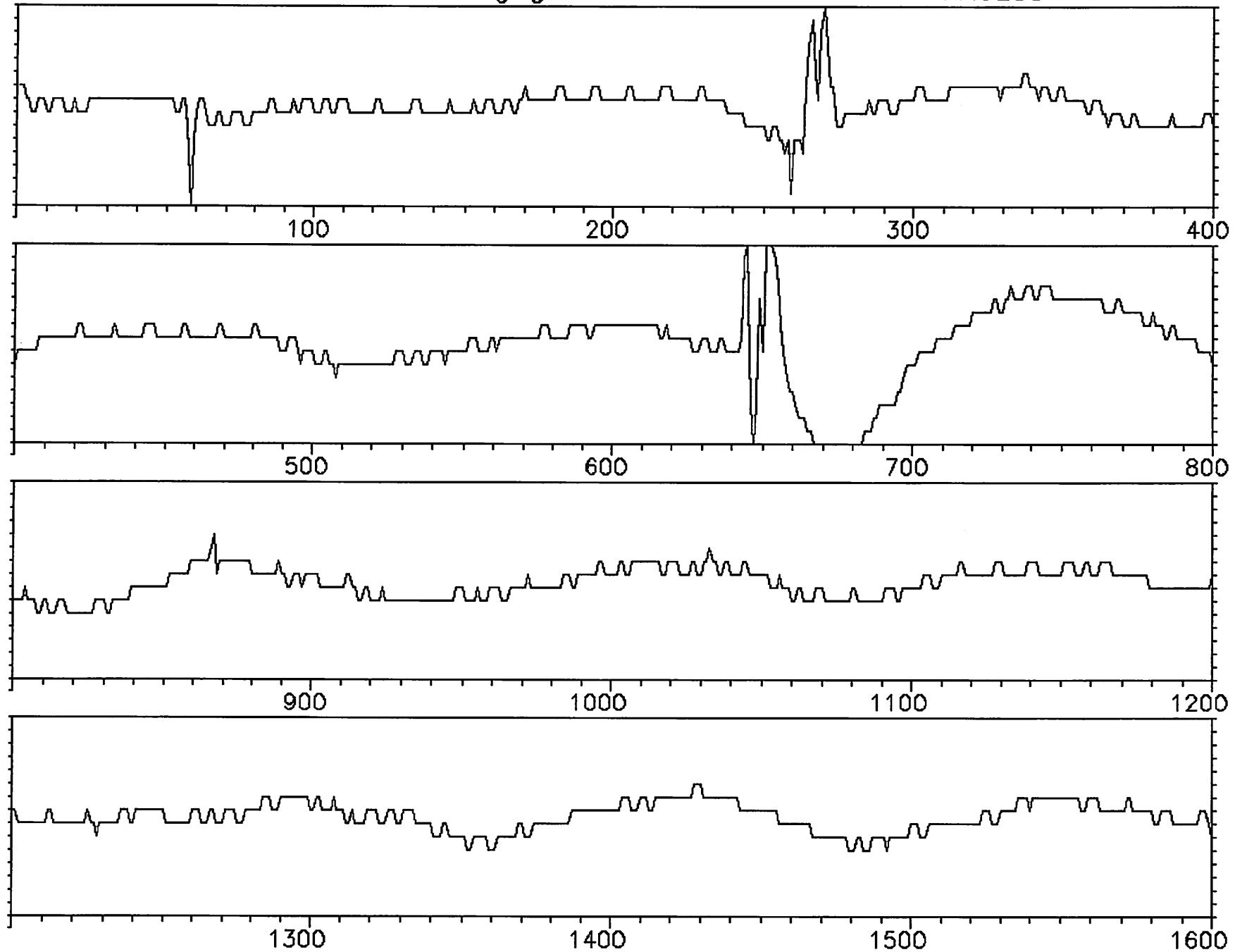


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Voyagers

Dust

PAGE88

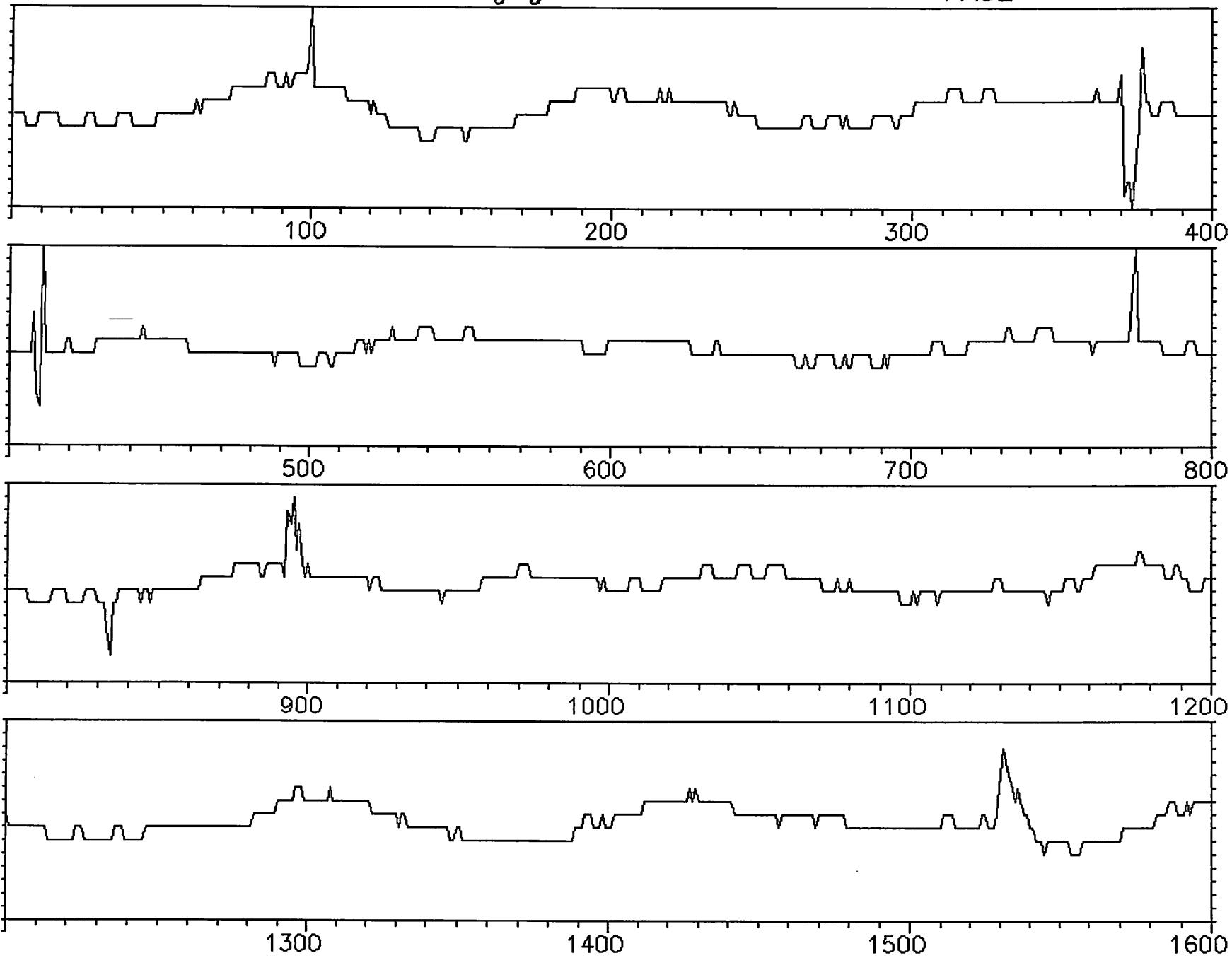


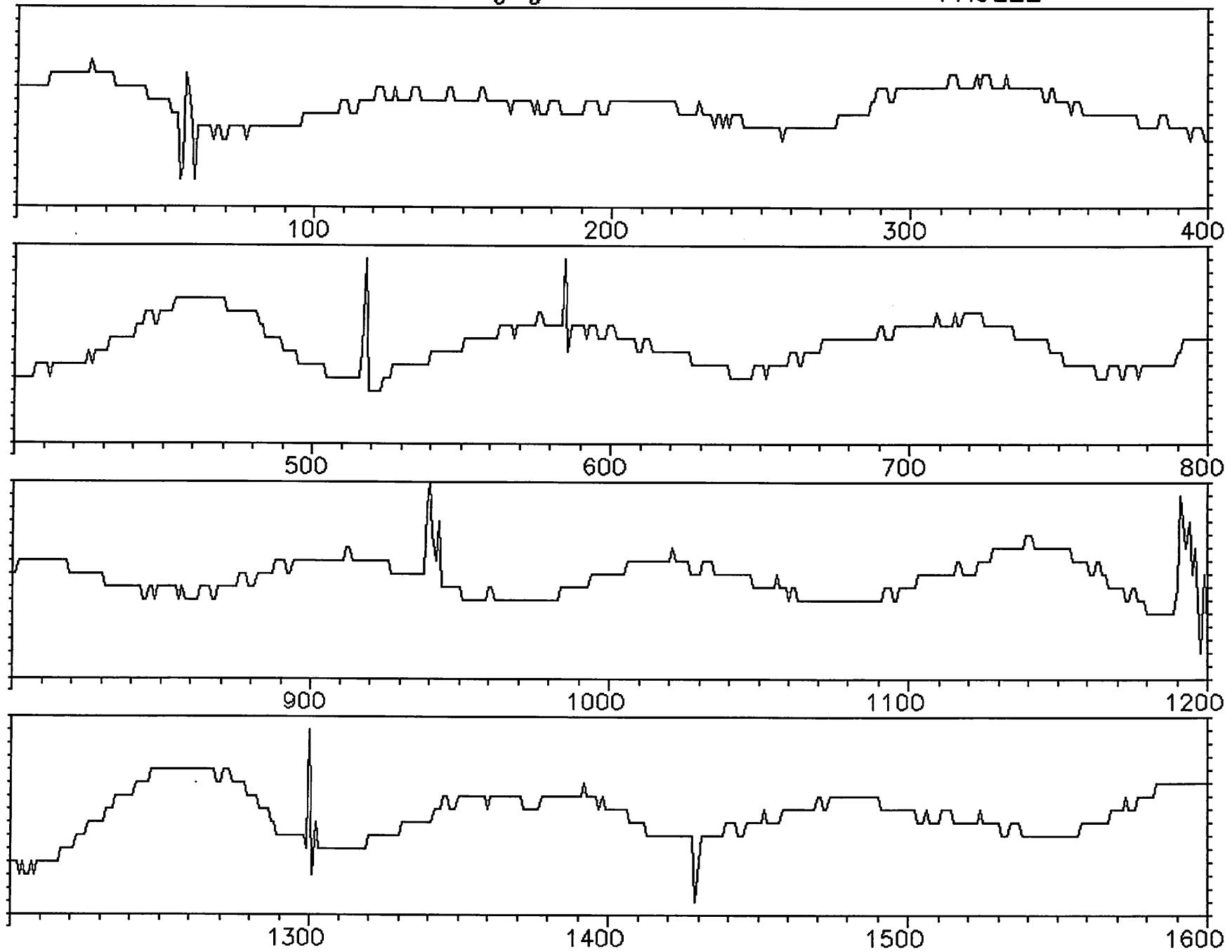
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Voyagers

Dust

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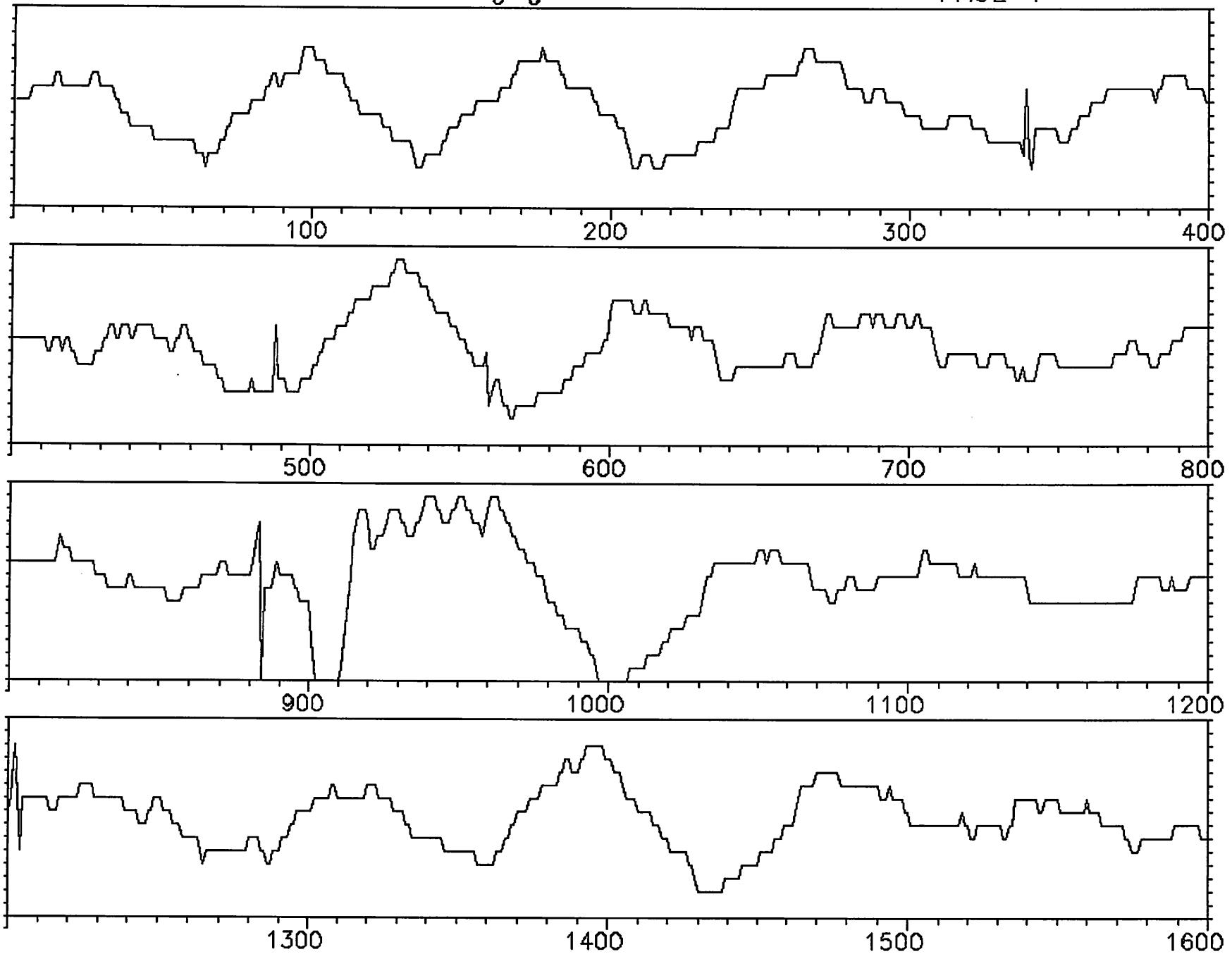




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Voyagers Dust

PAGE 4



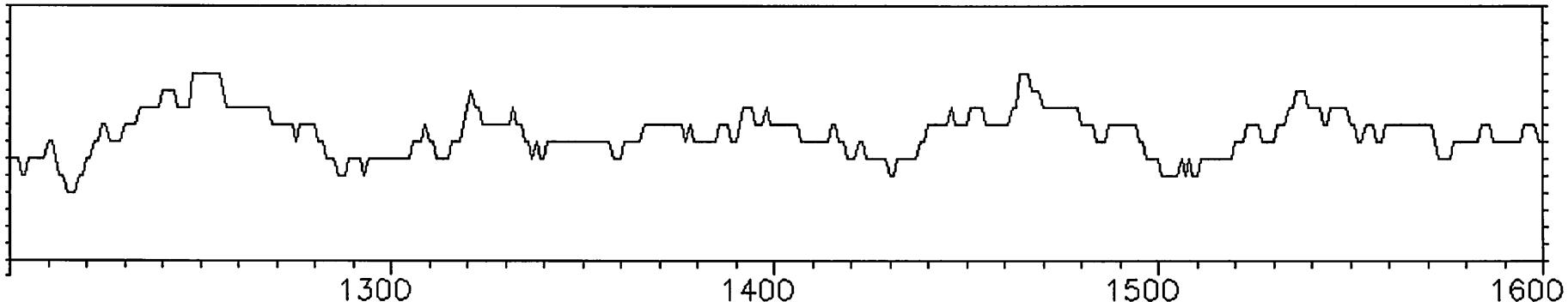
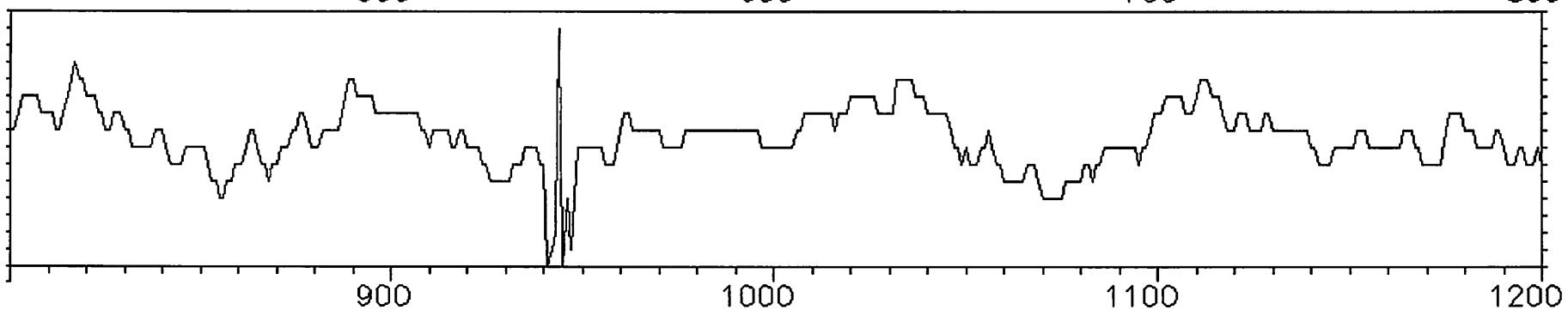
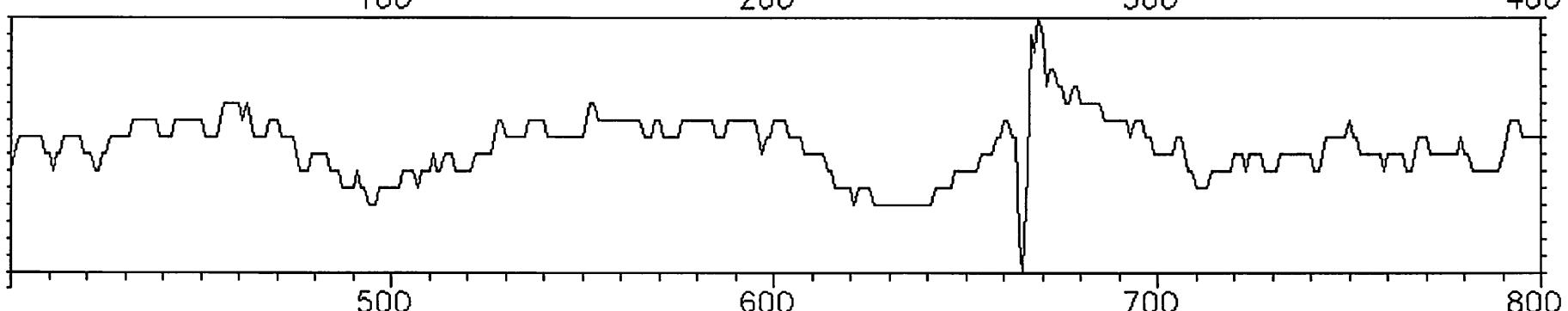
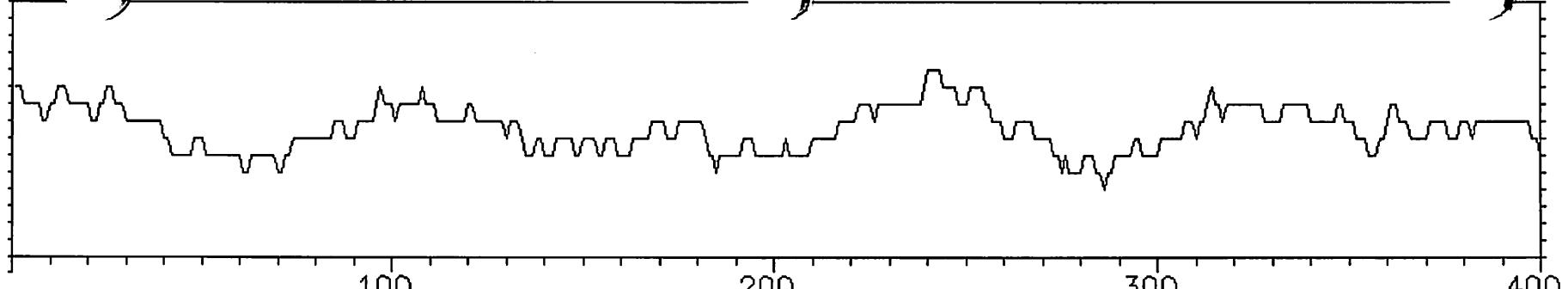
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) 95.10.401

*Voyagers*

) *Dust*

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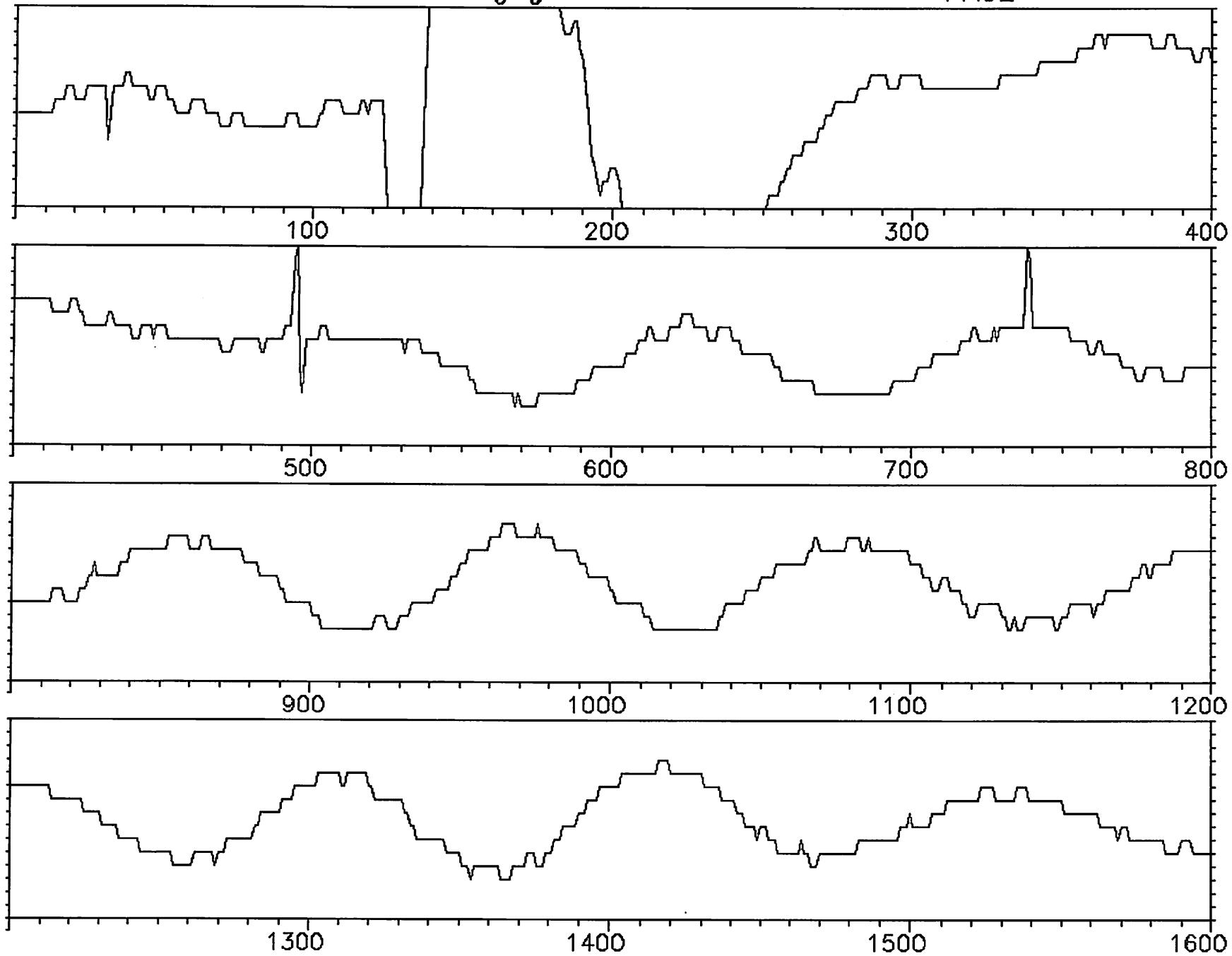


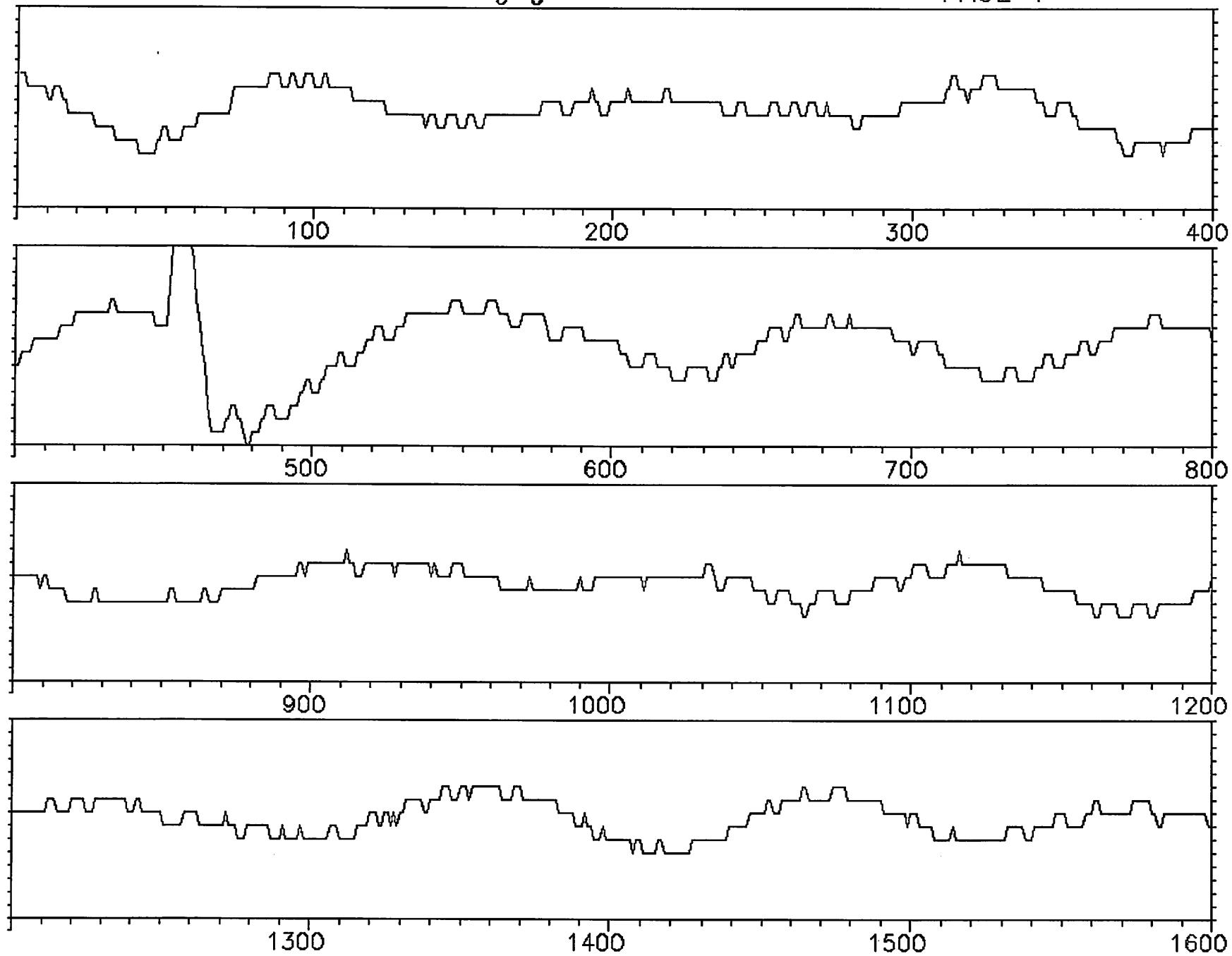
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Voyagers

Dust

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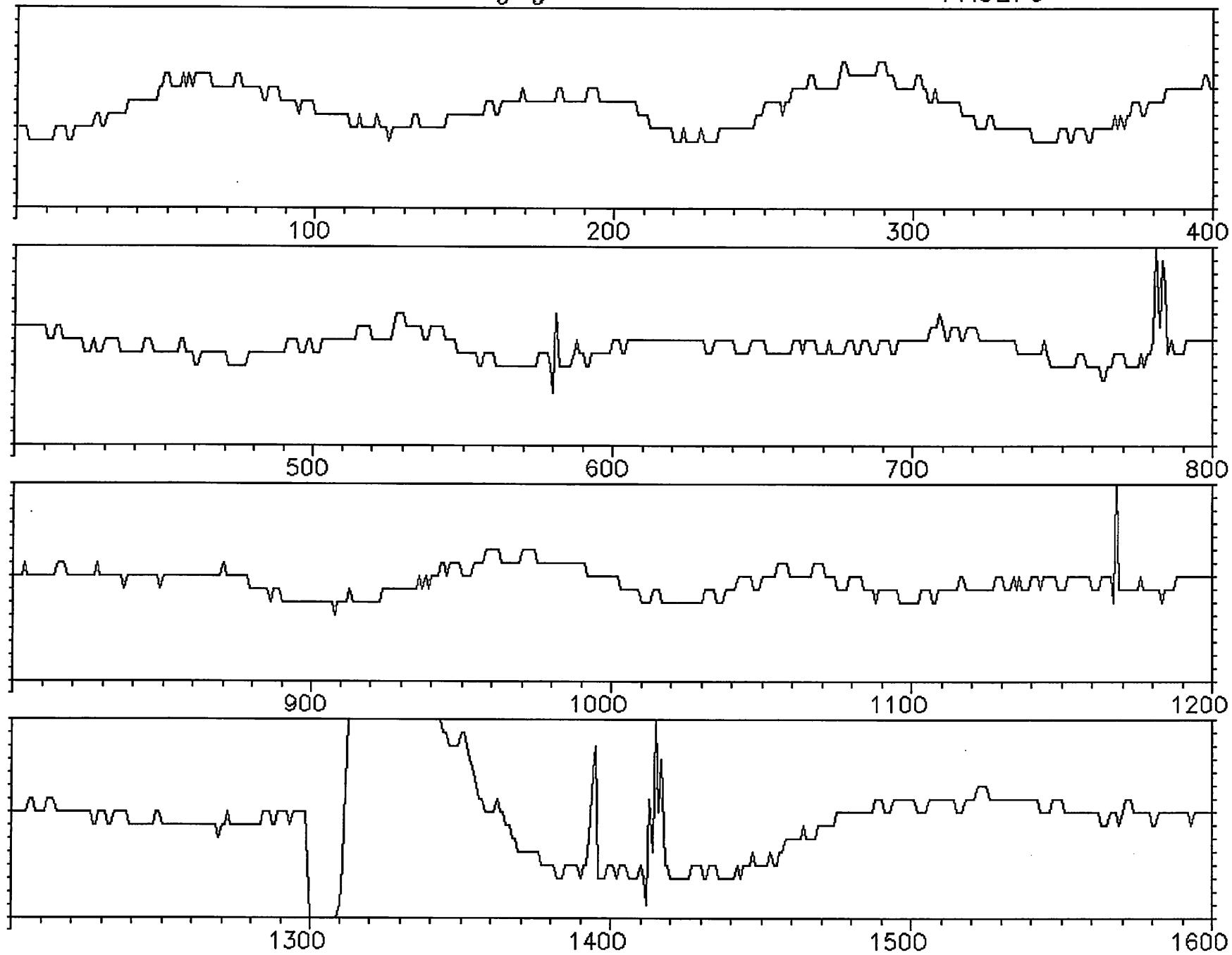


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Voyagers

Dust

PAGE70



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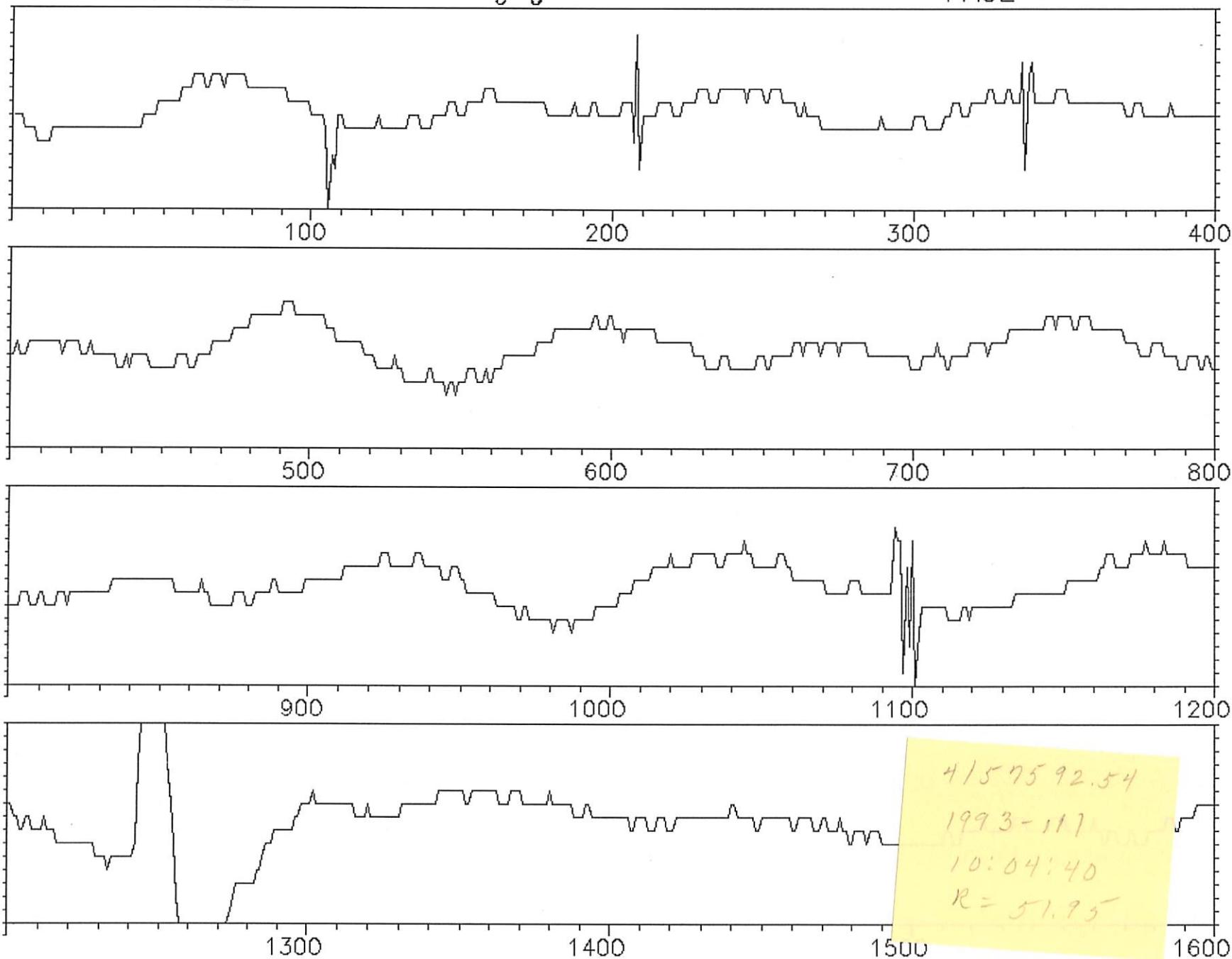
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Voyagers

Dust

PAGE\*\*



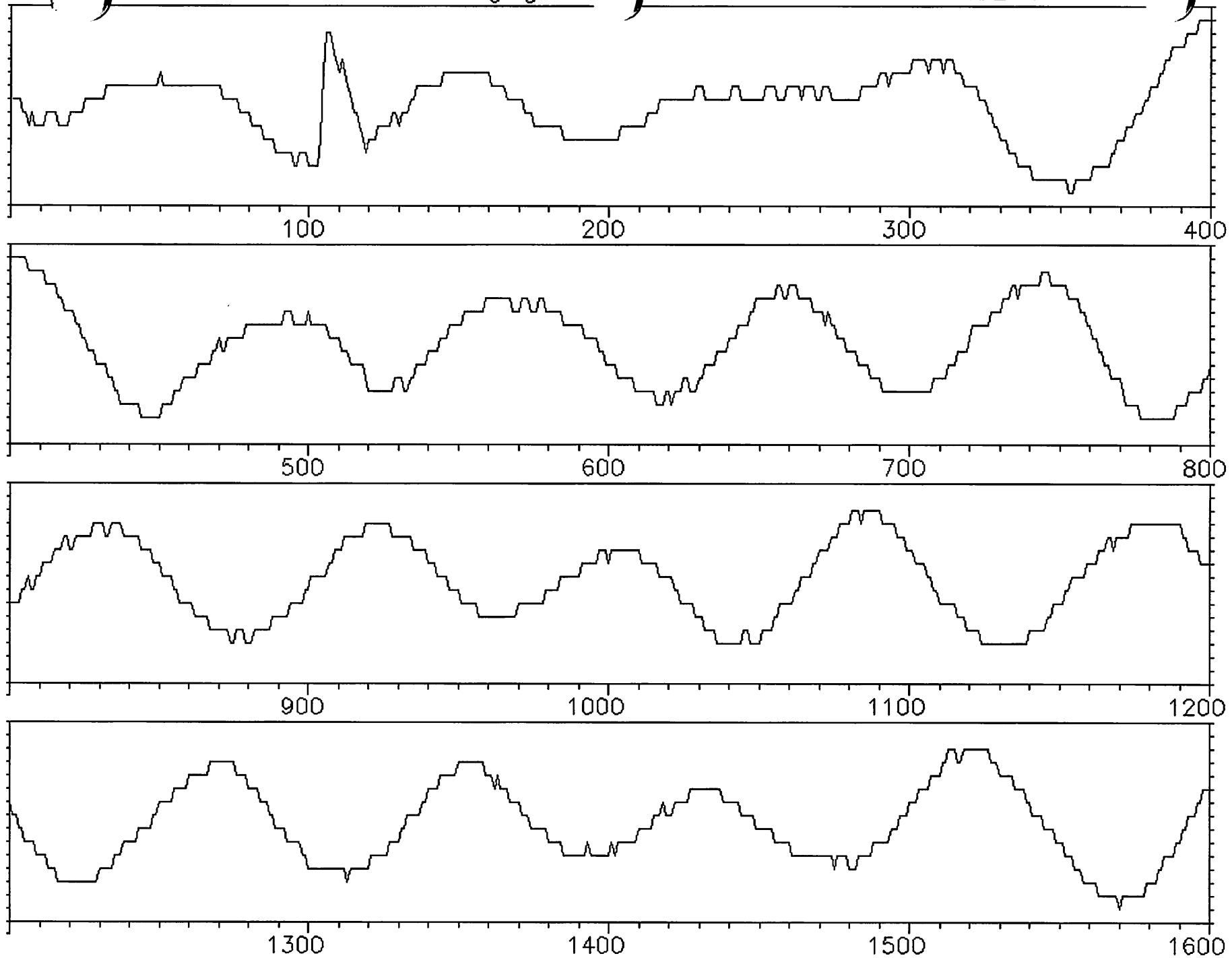
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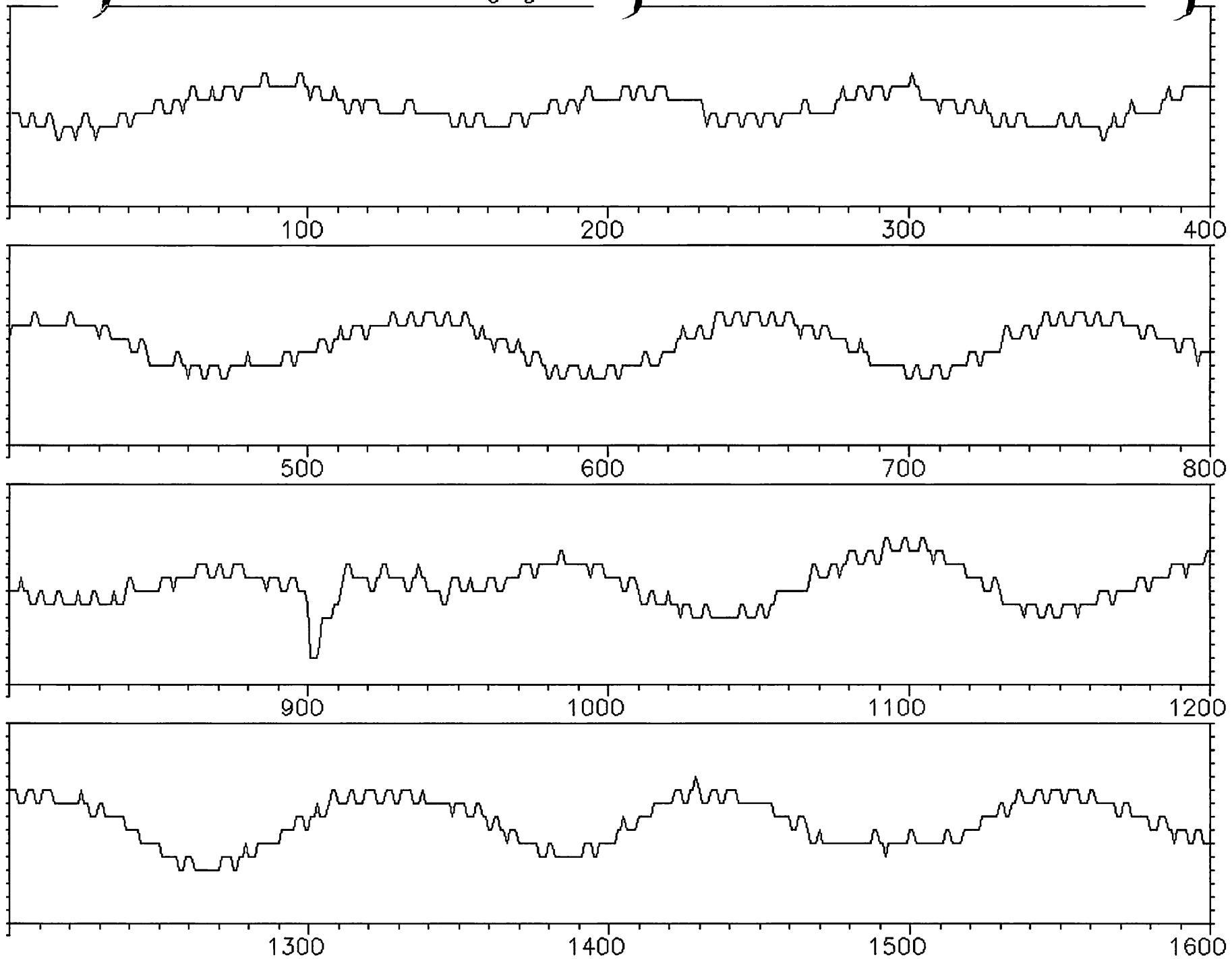
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*Voyagers* )

Dust

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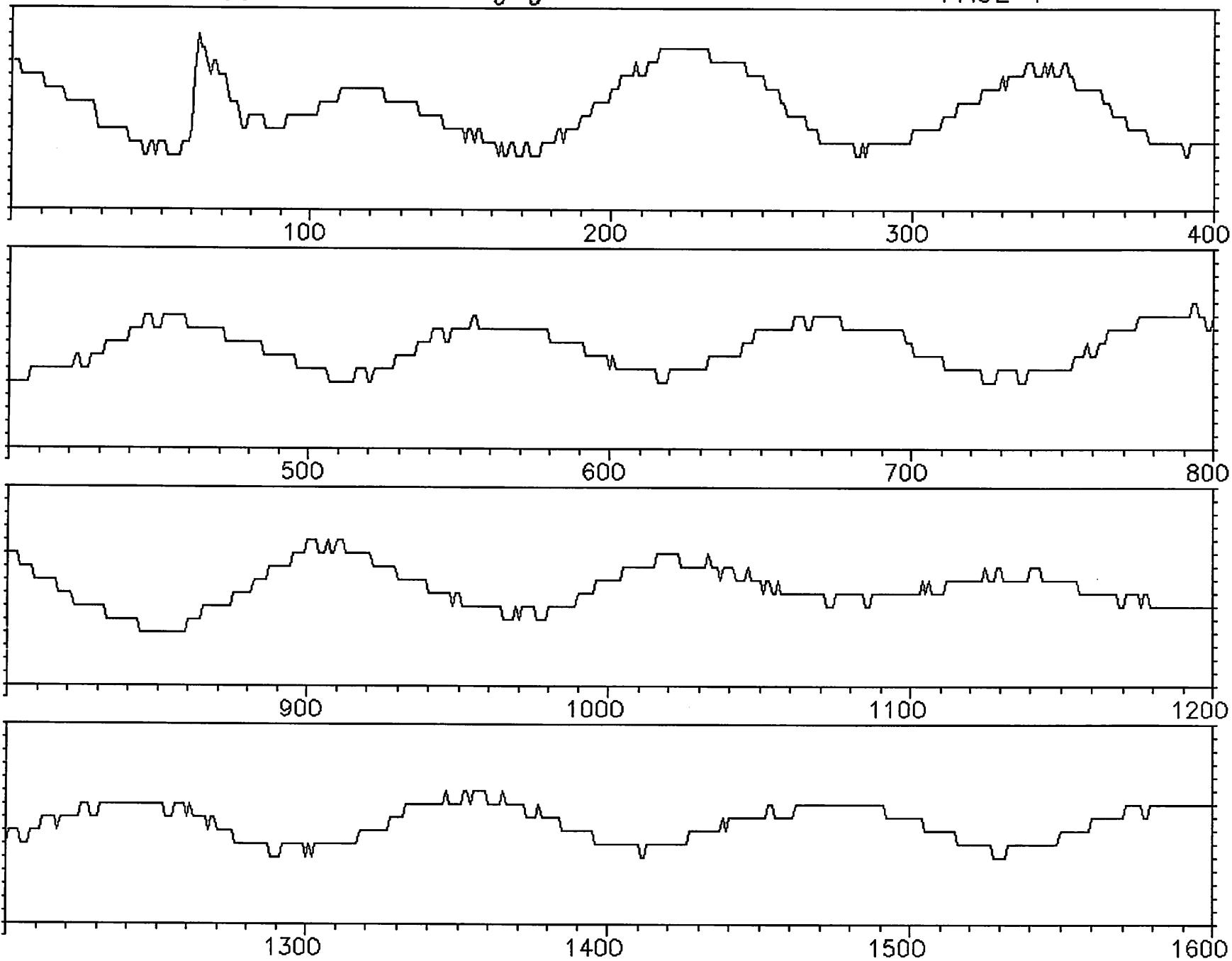
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Voyagers

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Dust

PAGE 1



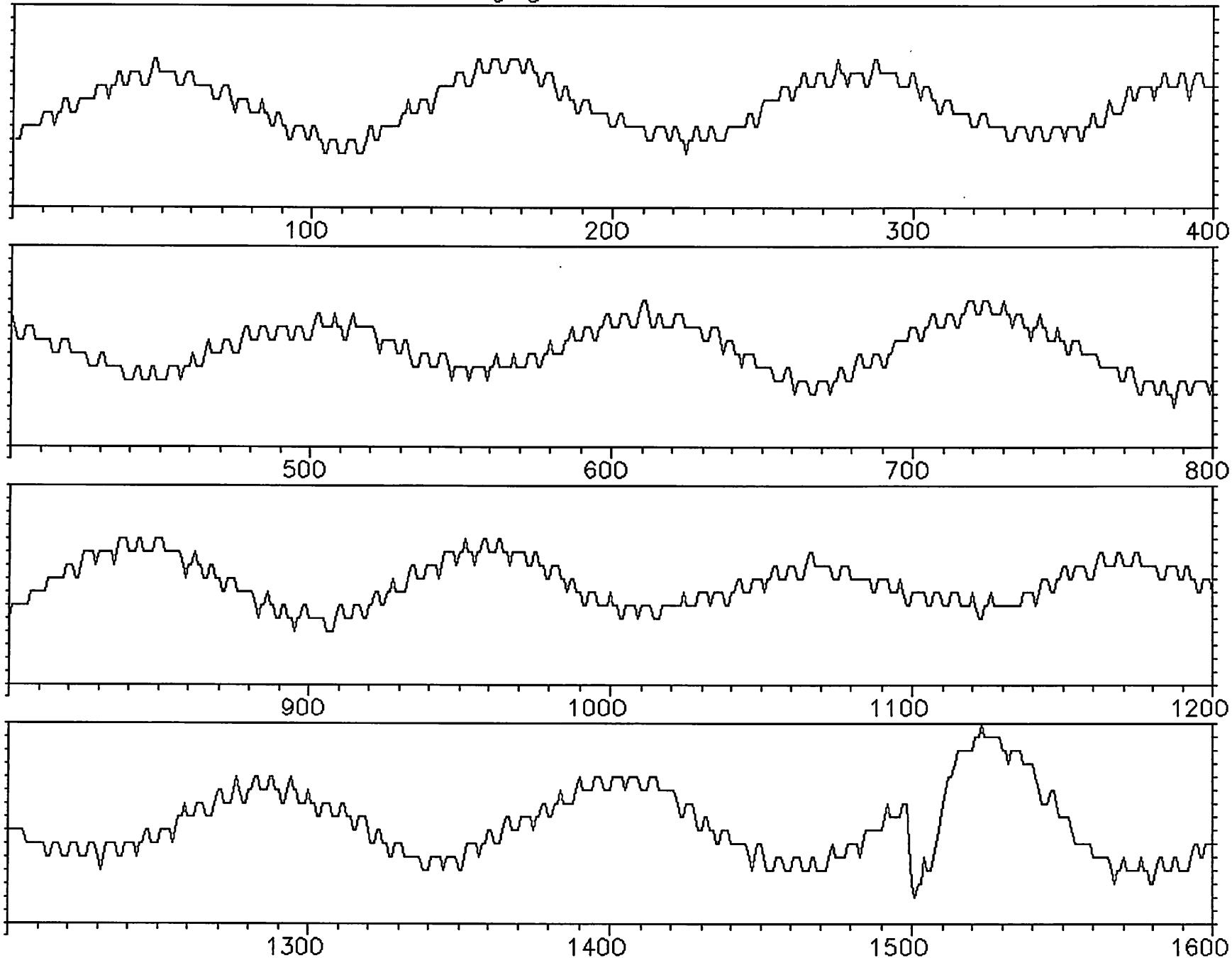
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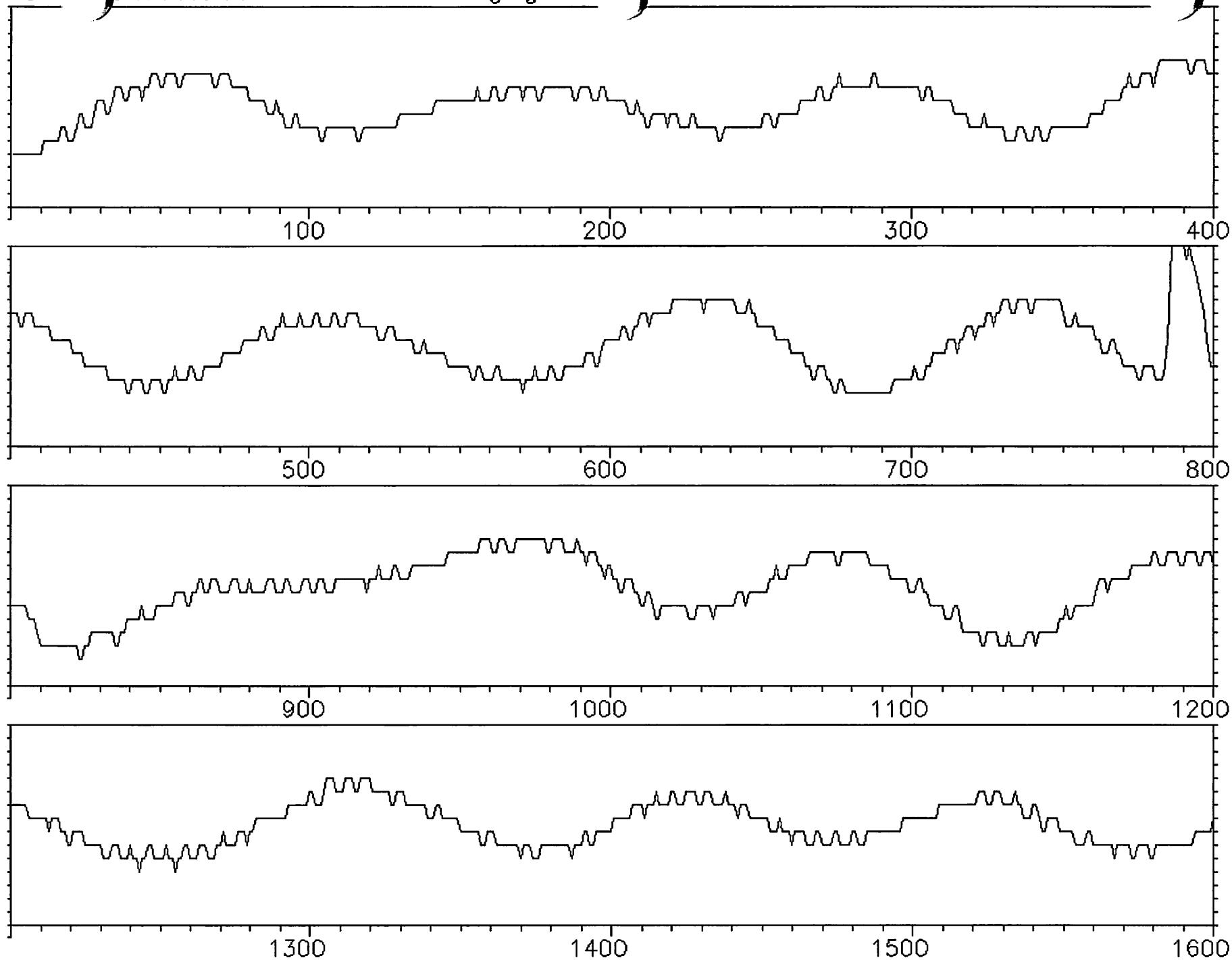
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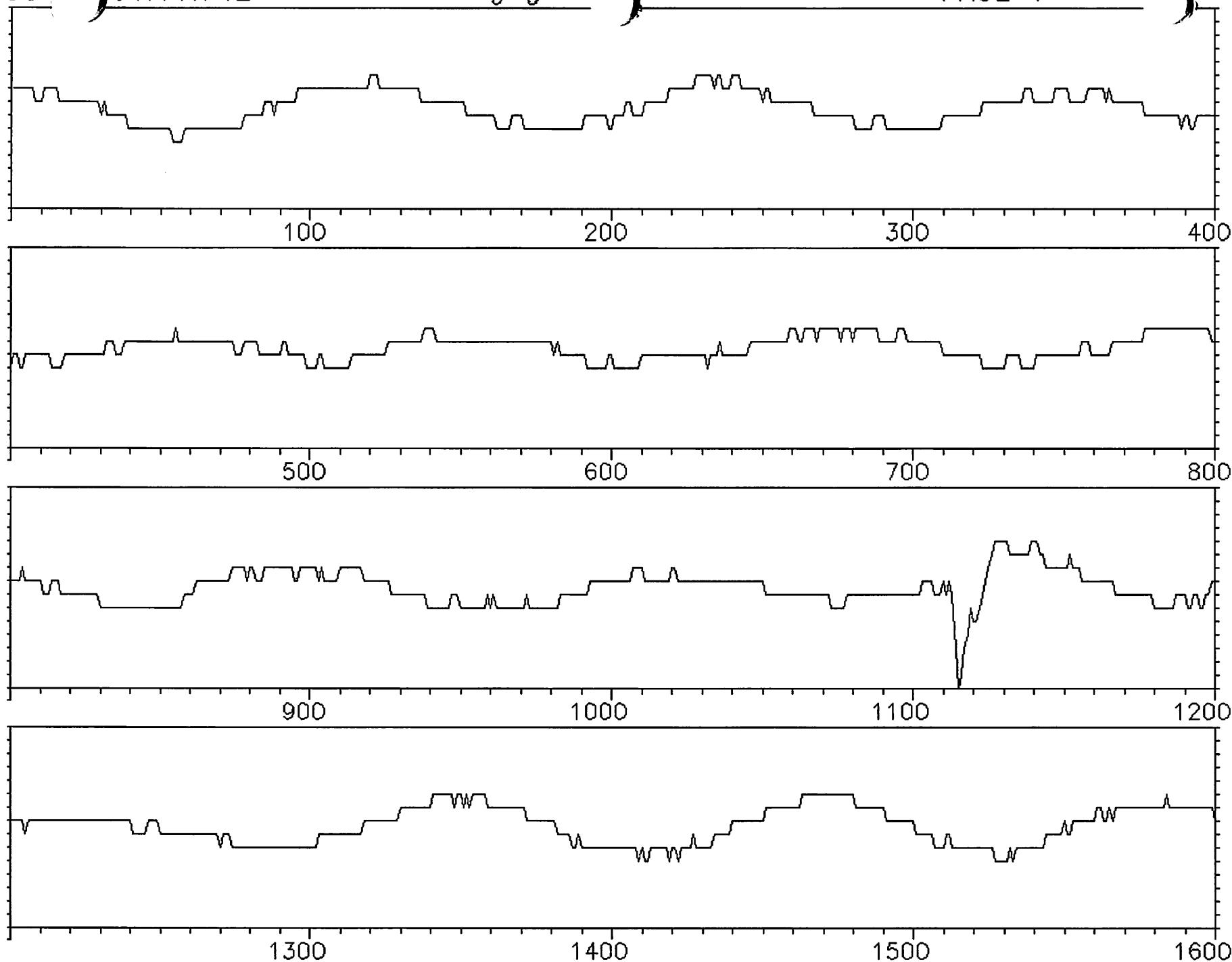
Voyagers

Dust

PAGE 6







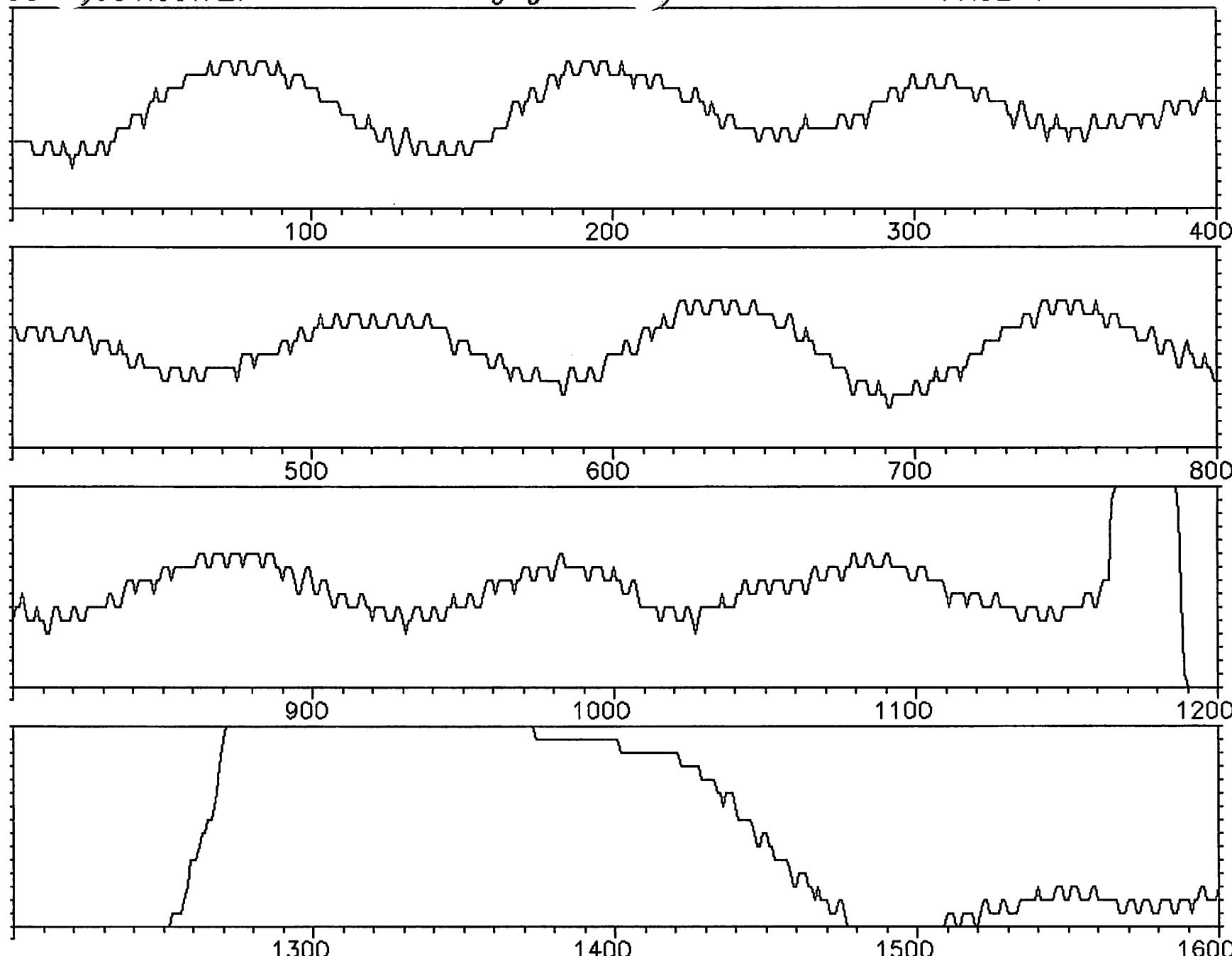
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Voyagers

Dust

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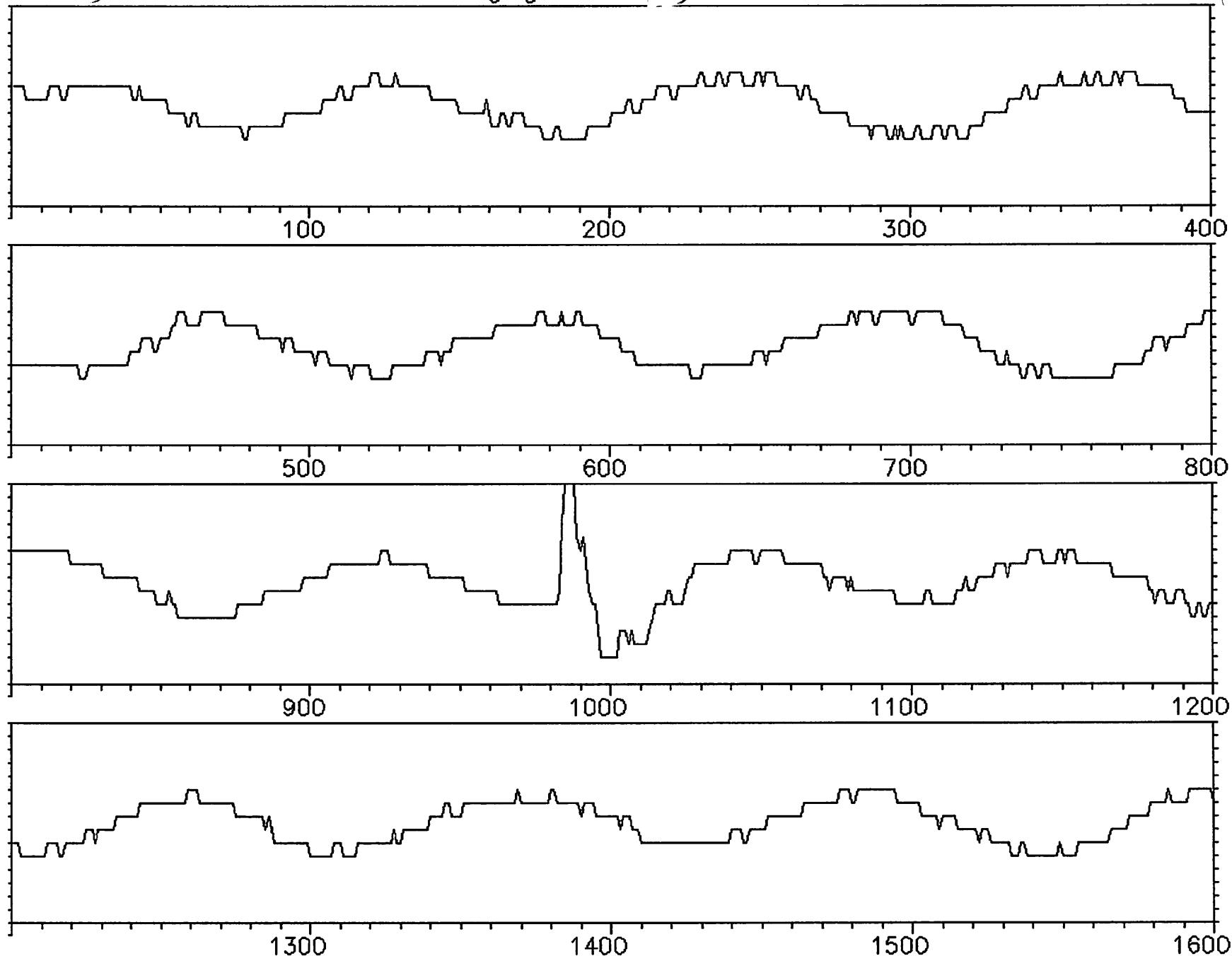


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Voyagers Dust

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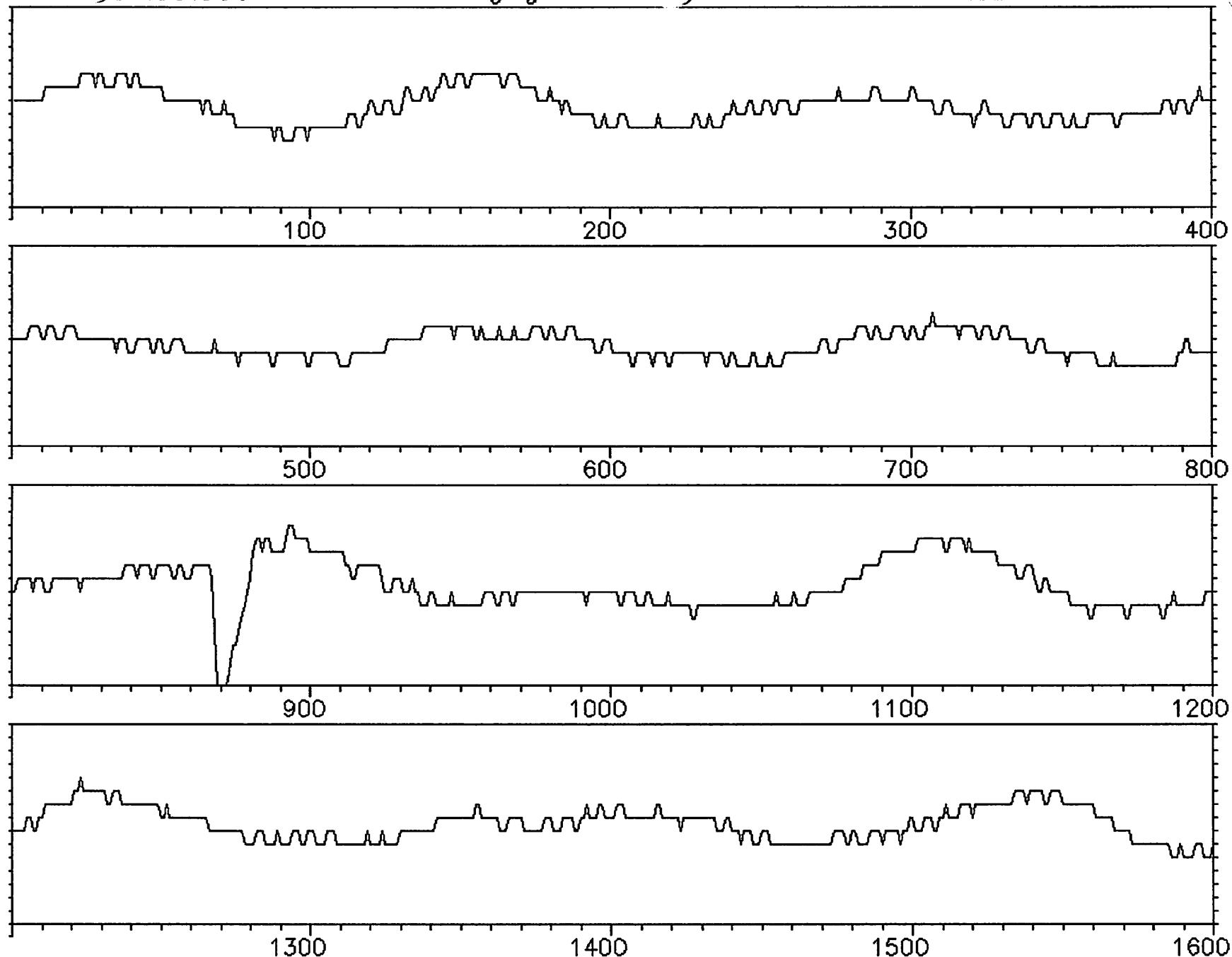
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Voyagers

PAGE 6

Dust



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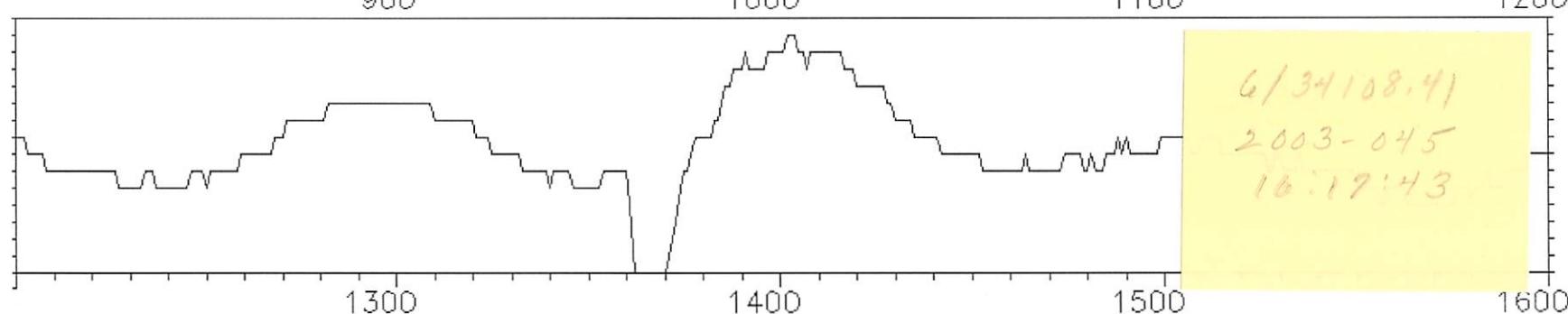
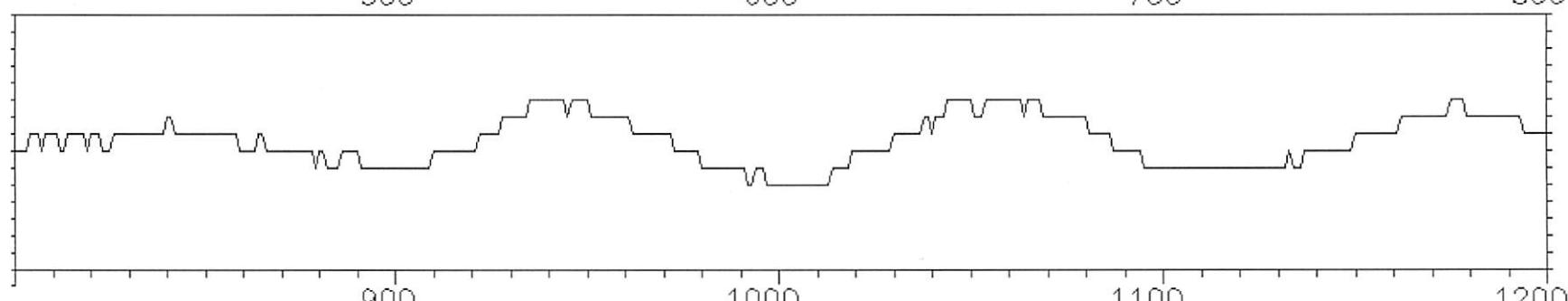
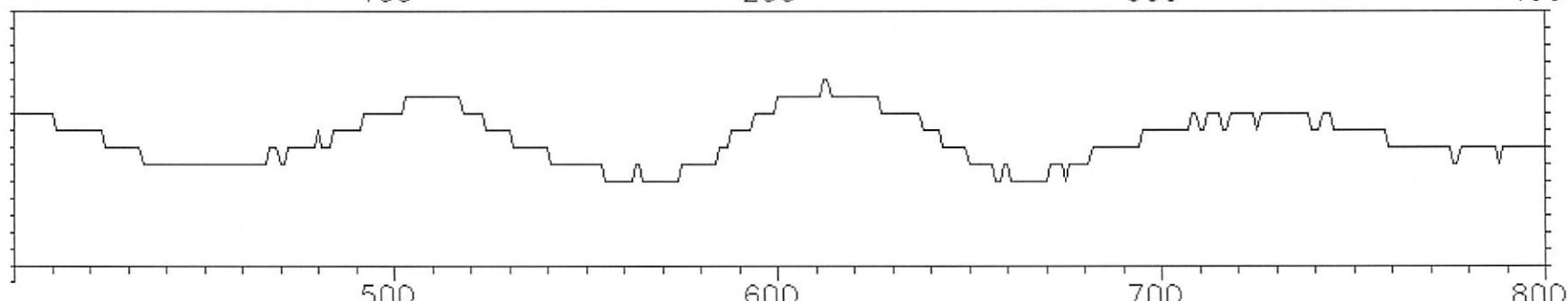
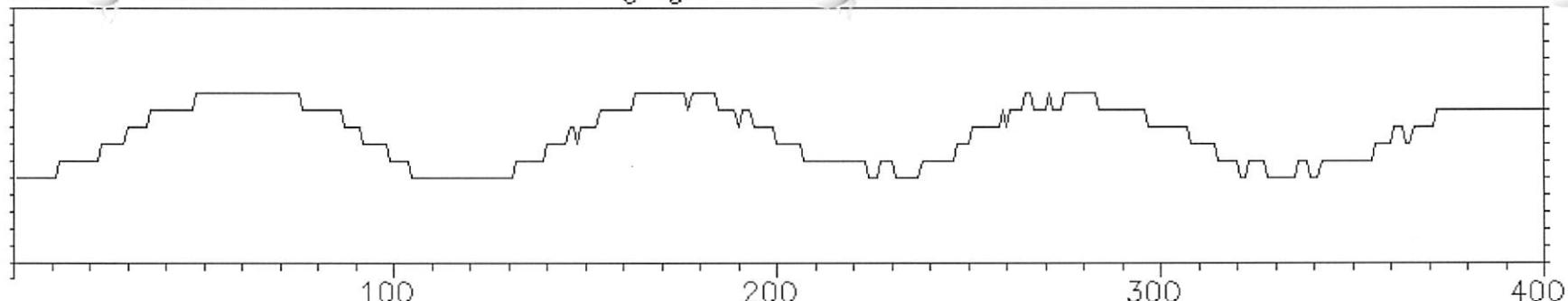
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Voyagers

Dust

PAGE 6



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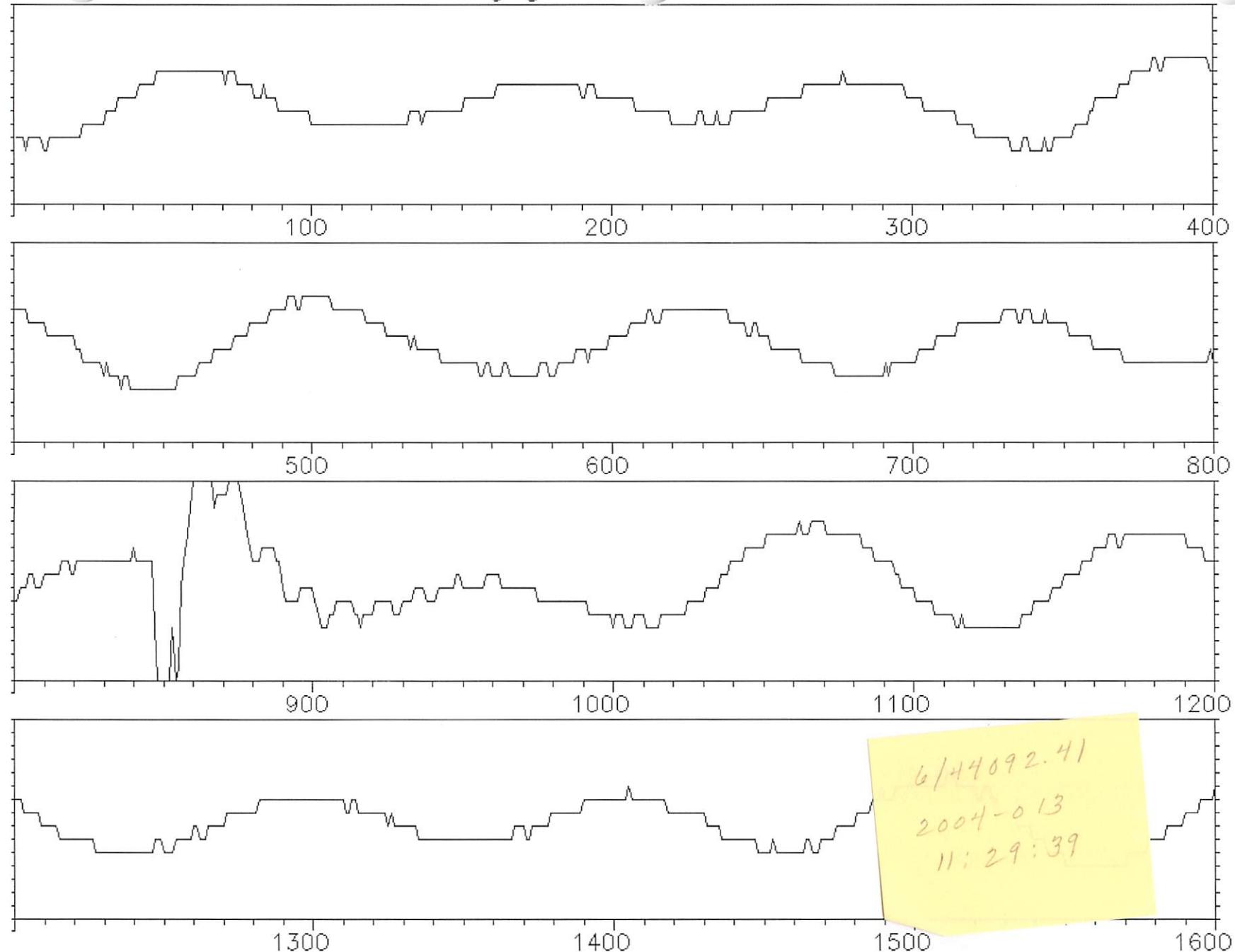
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Voyagers

Dust

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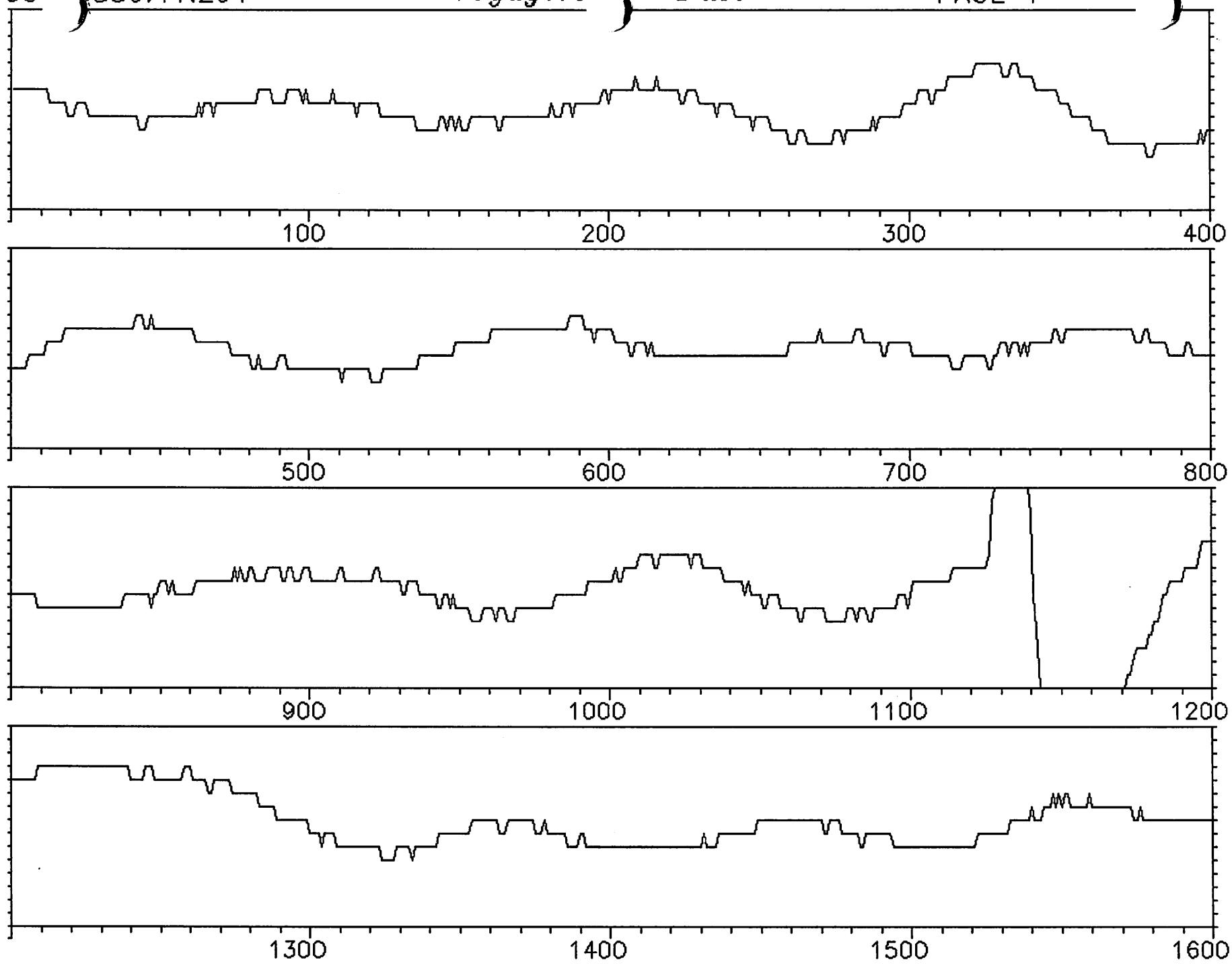
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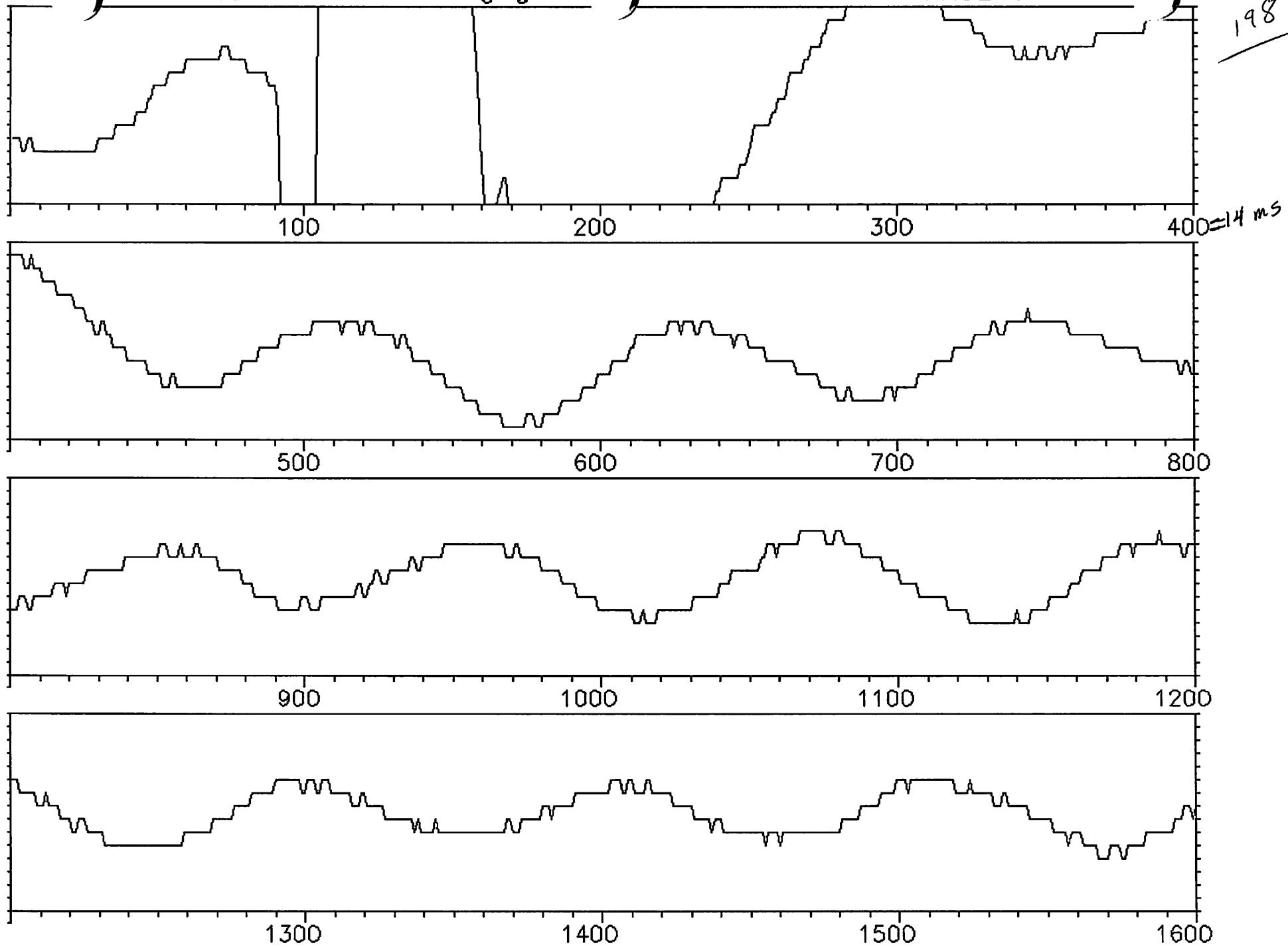
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Dust

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PAGE 6

198



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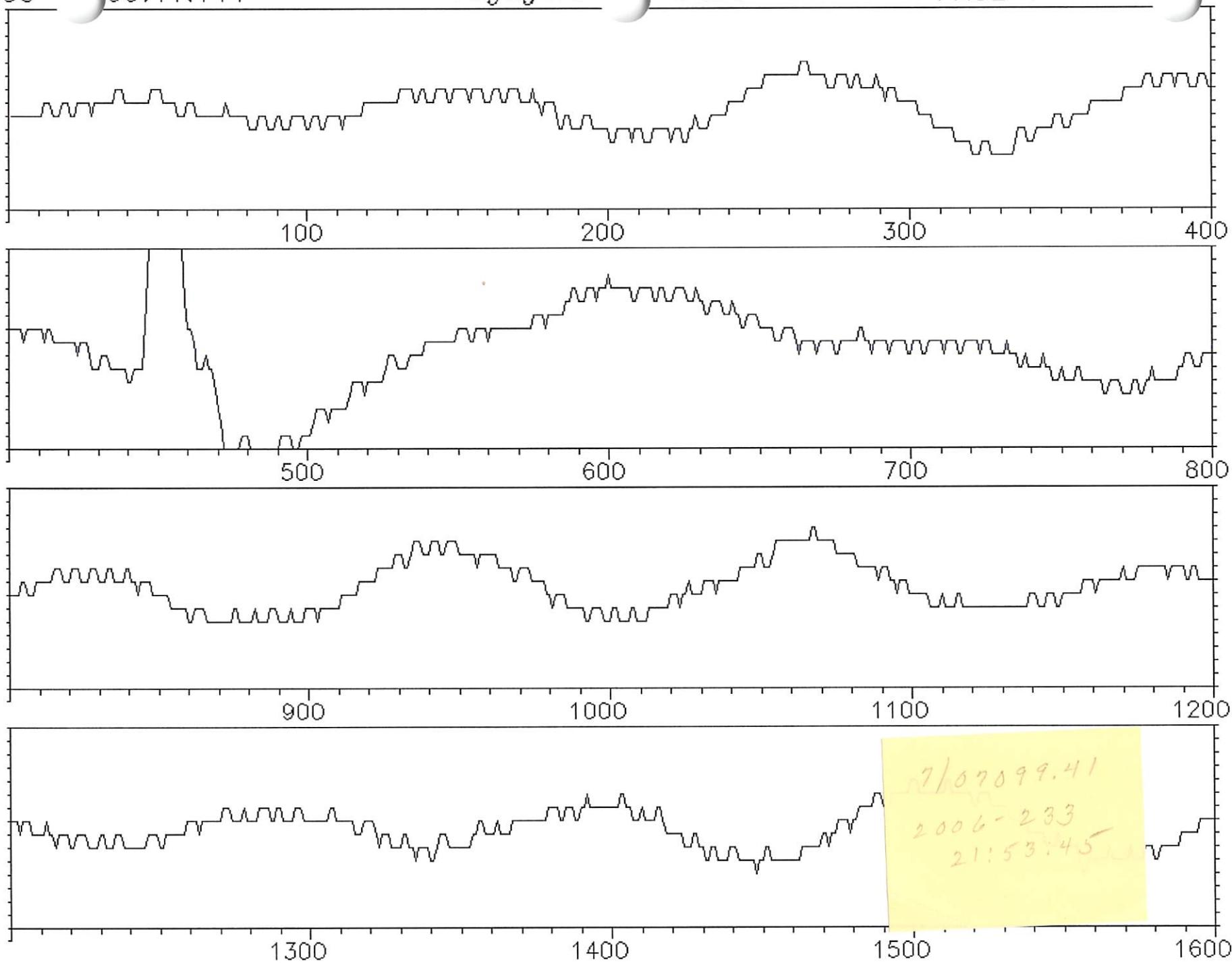
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Voyagers

Dust

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PAGE 1



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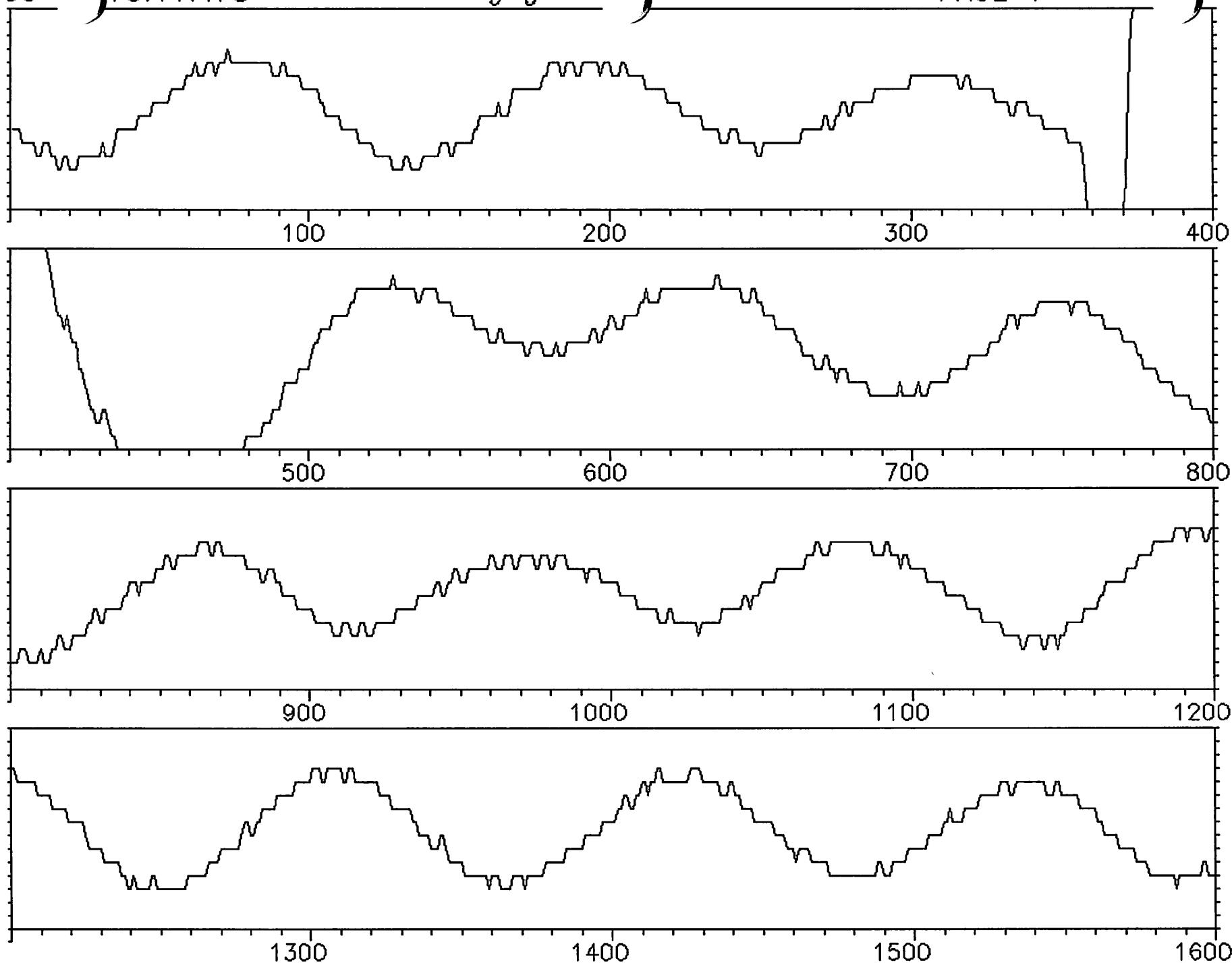
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Voyagers

Dust

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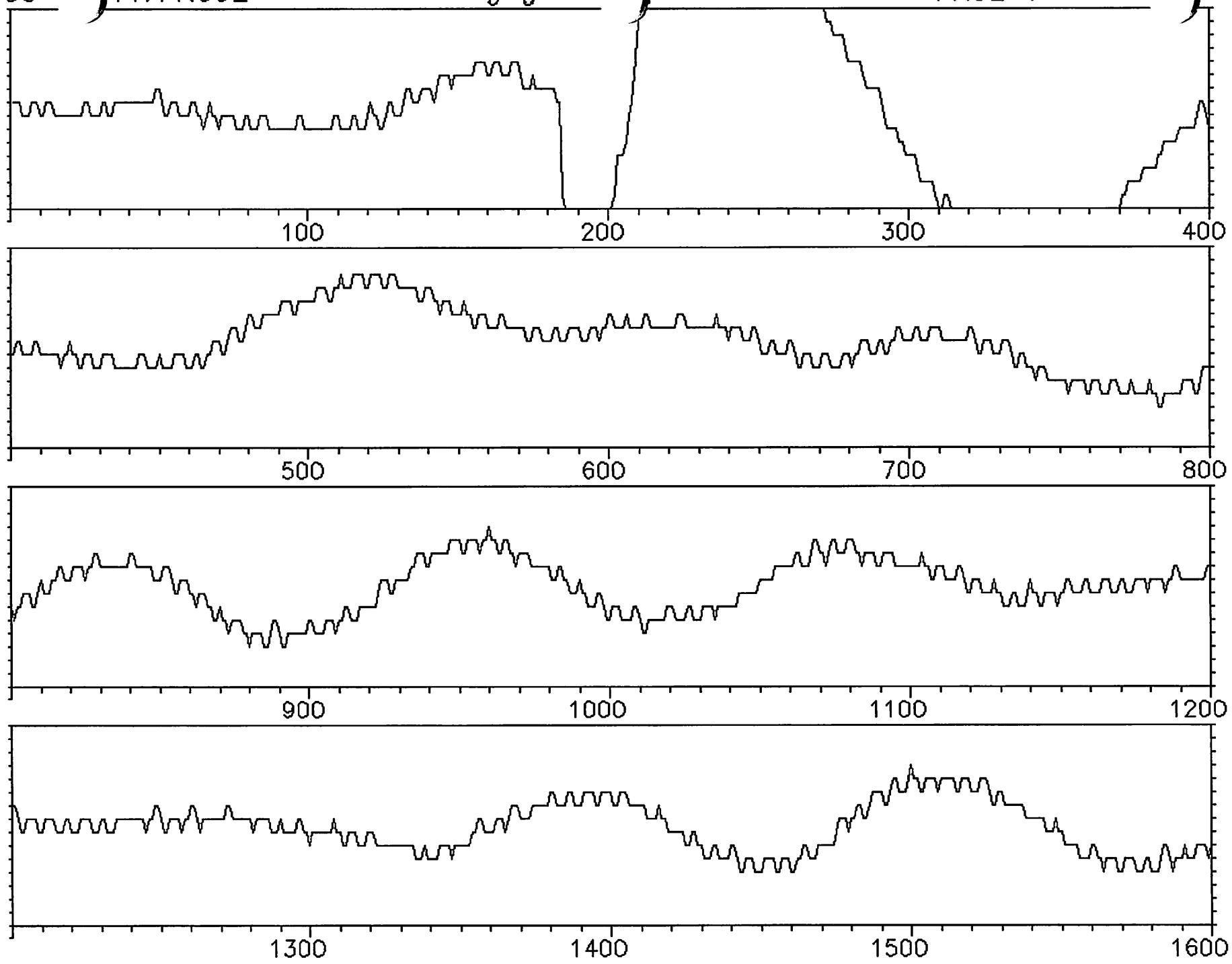
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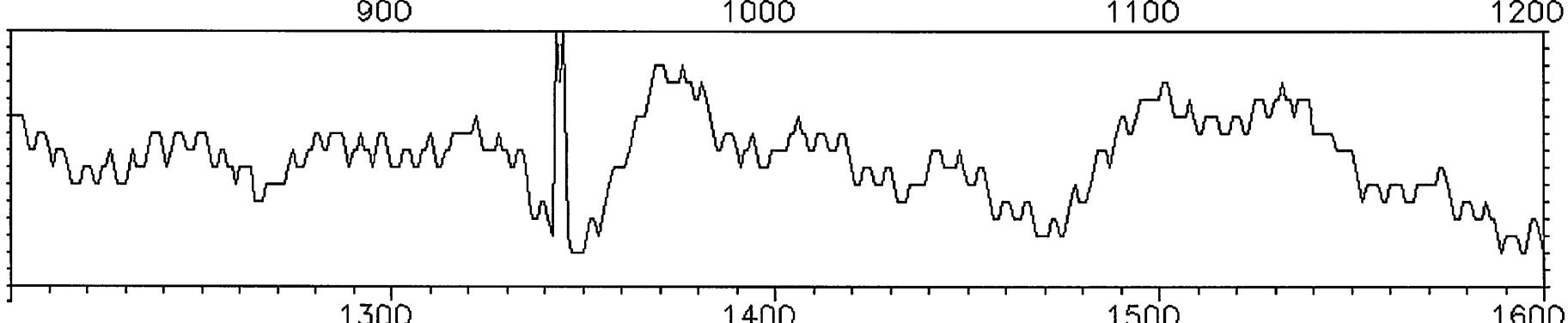
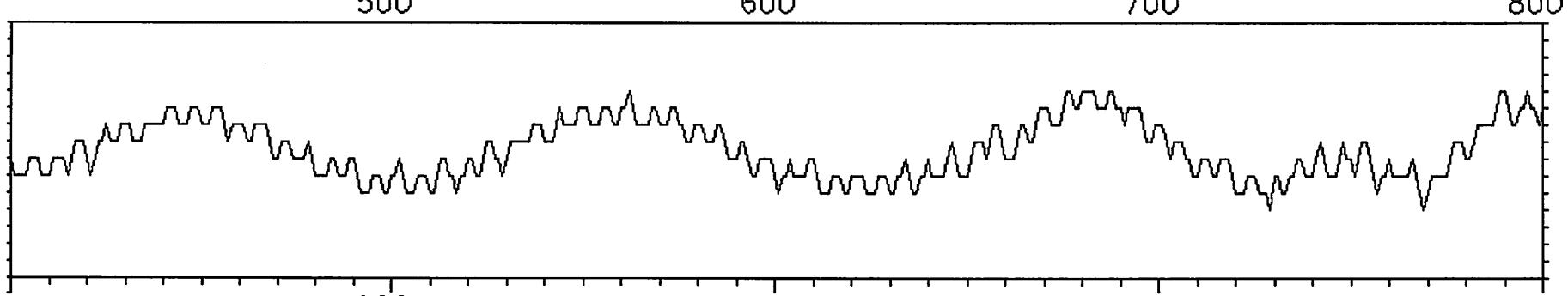
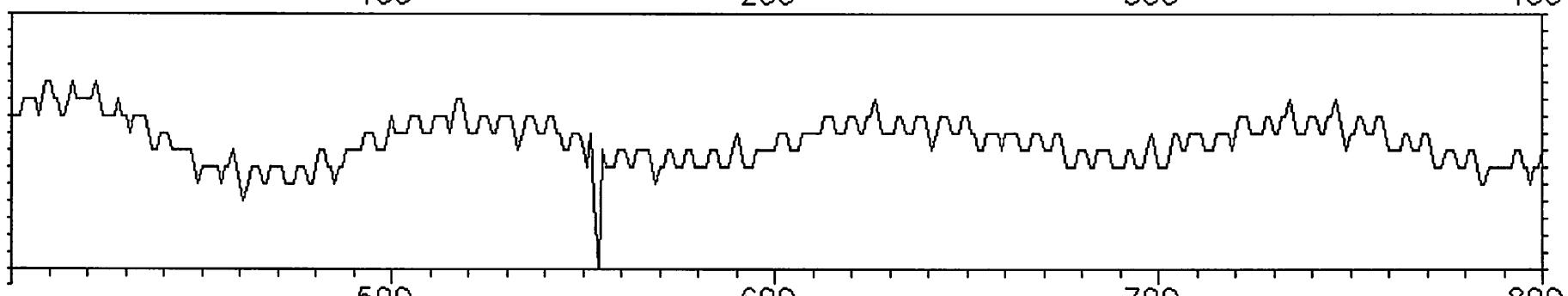
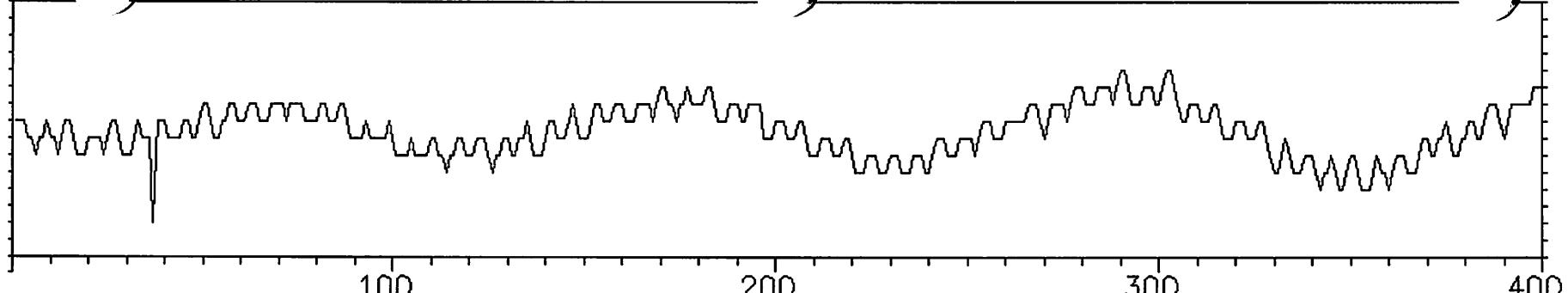
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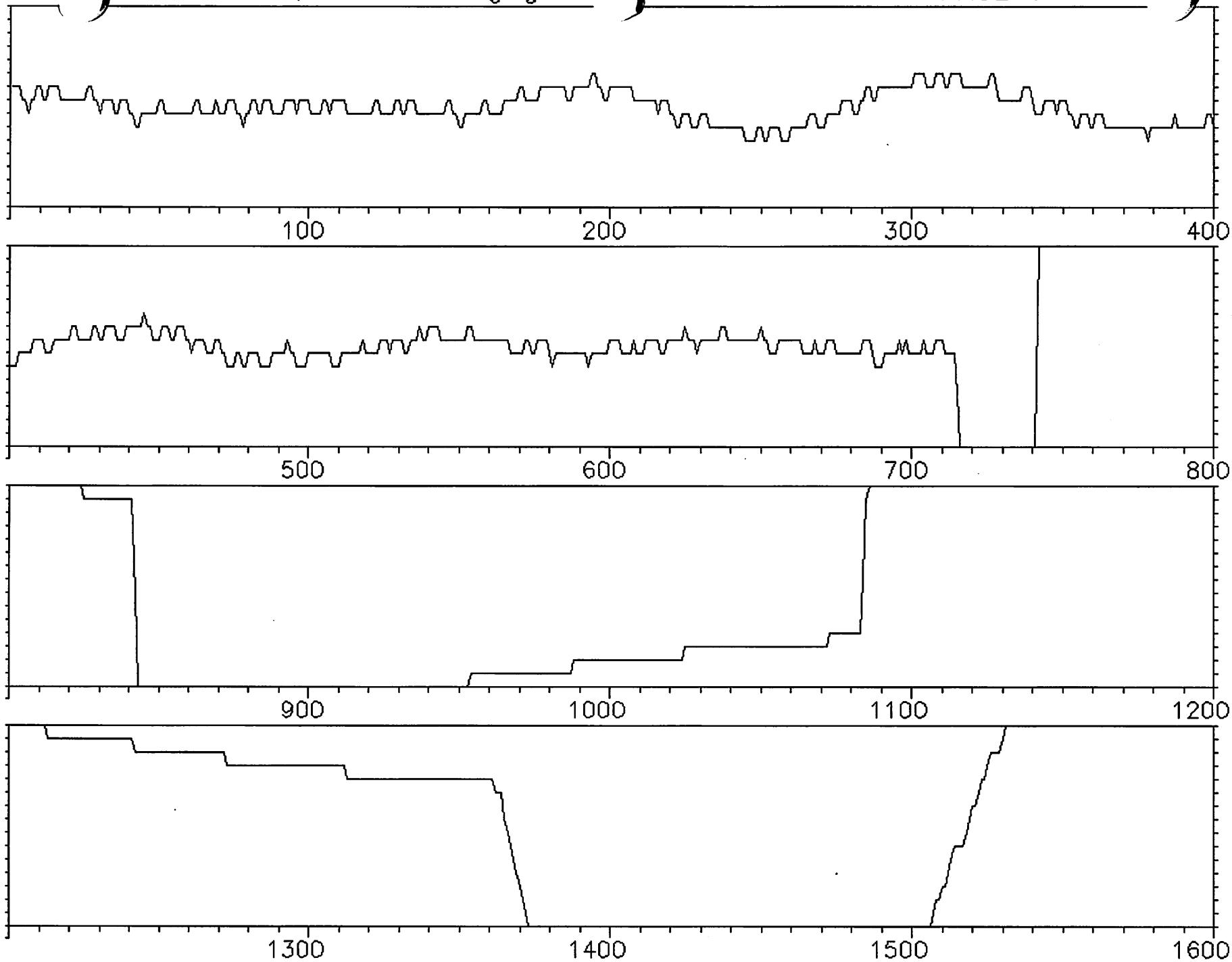
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PAGE 1







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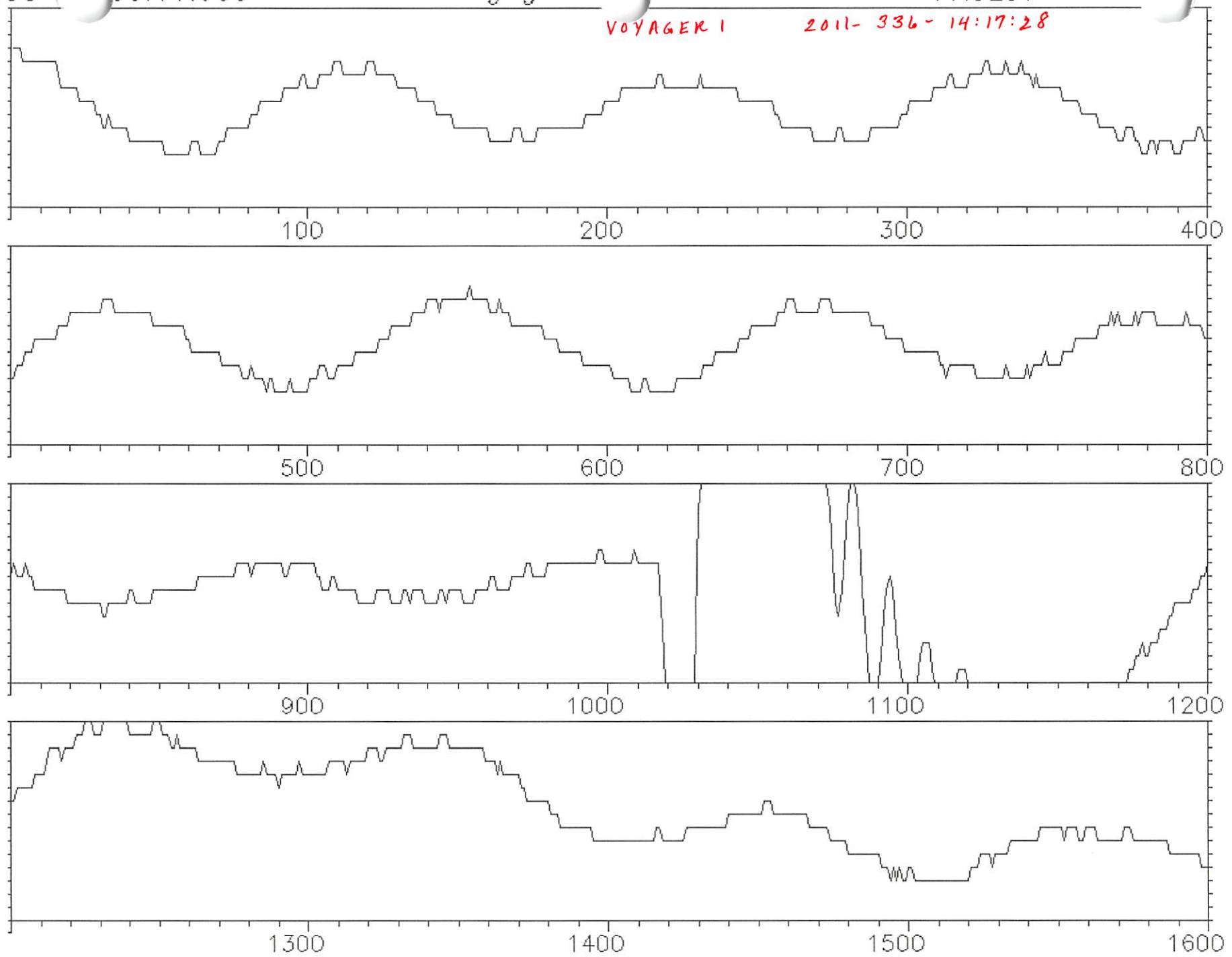
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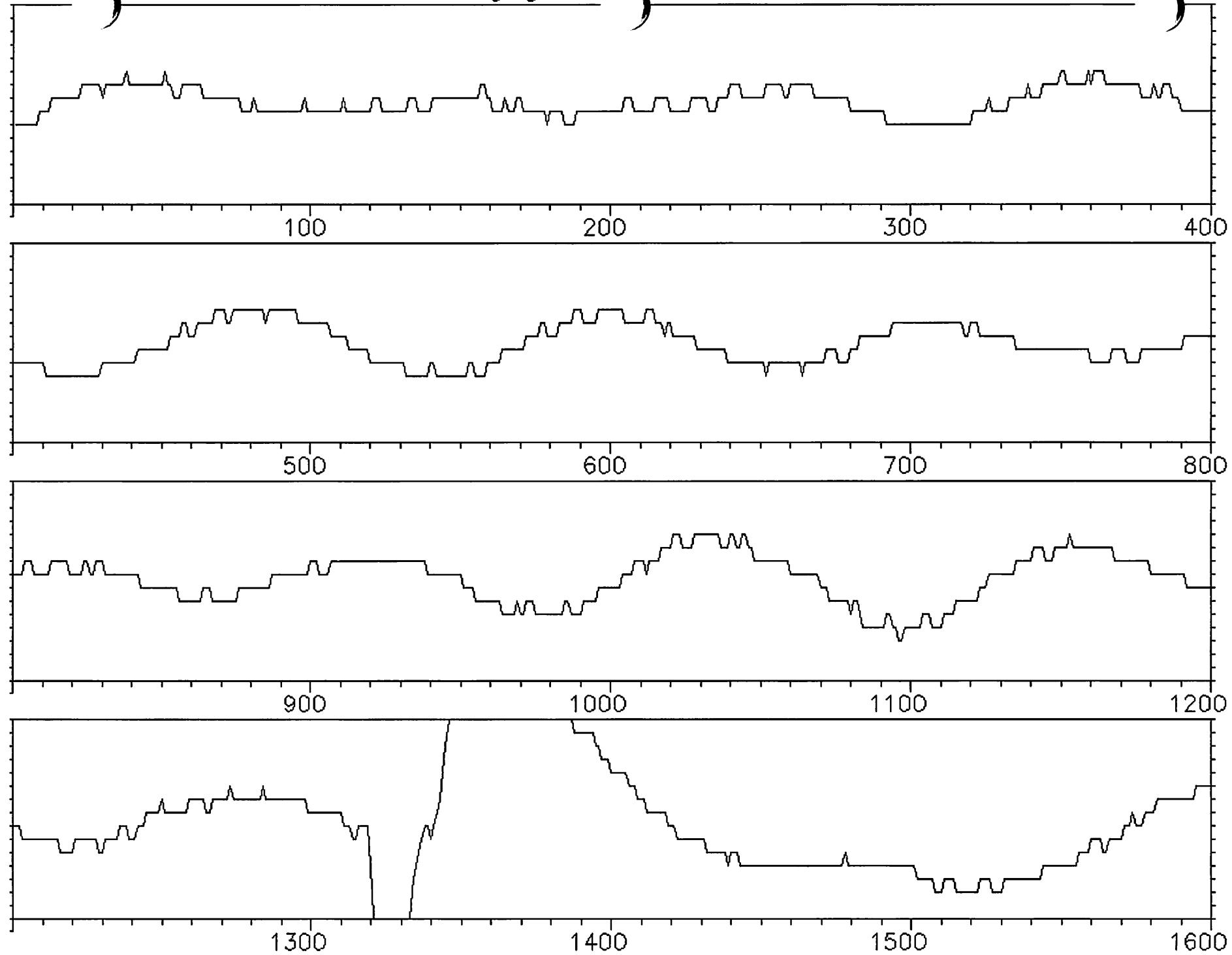
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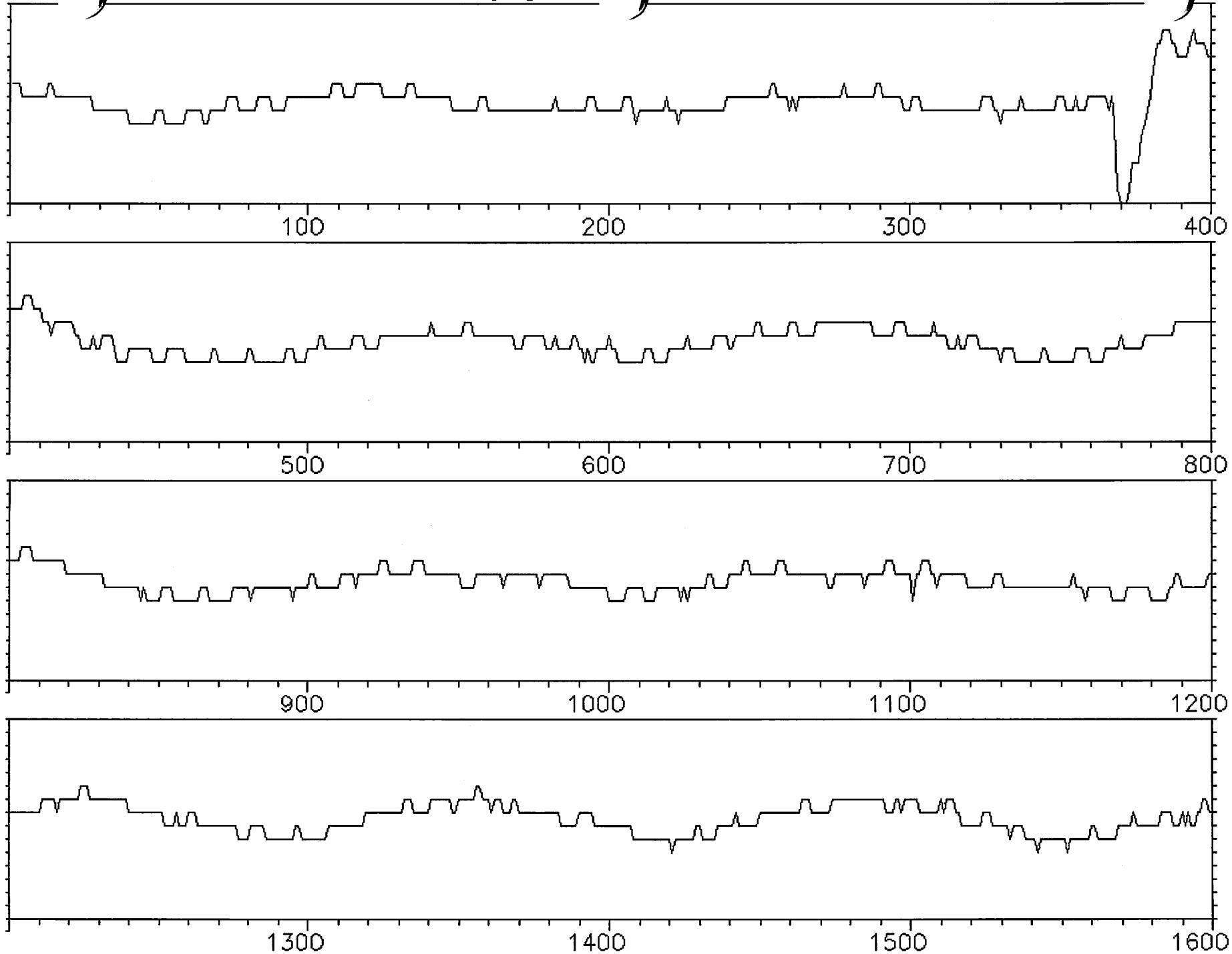
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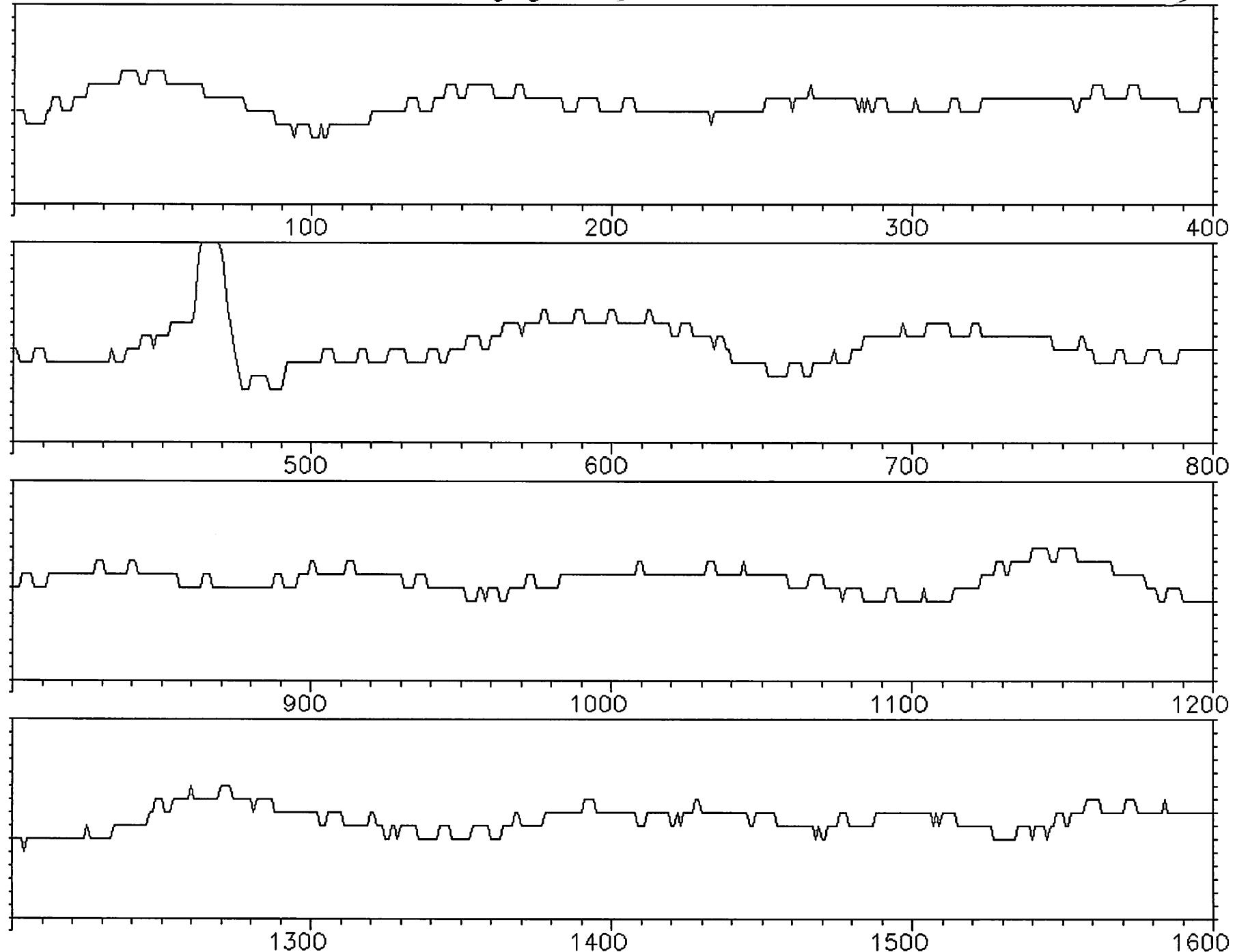
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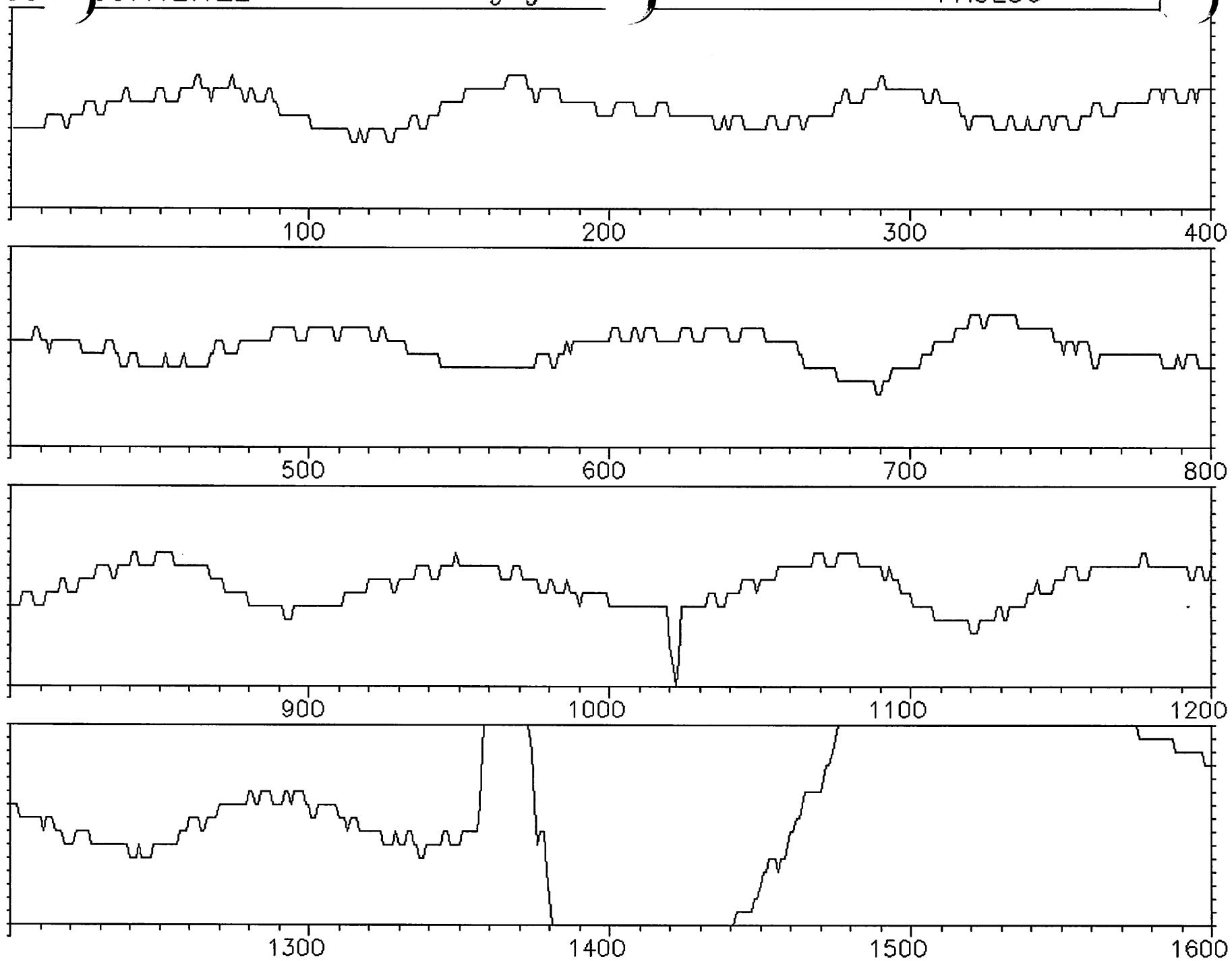
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Voyagers

Dust

PAGE36



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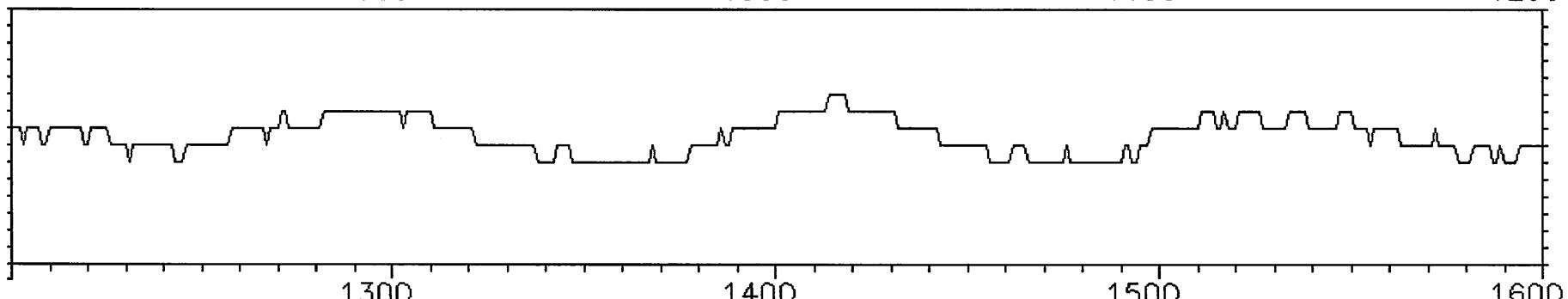
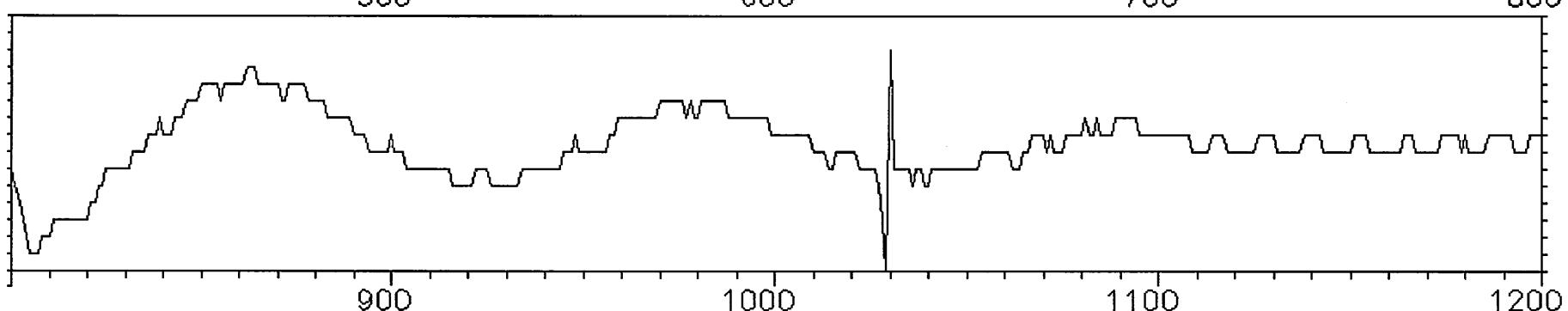
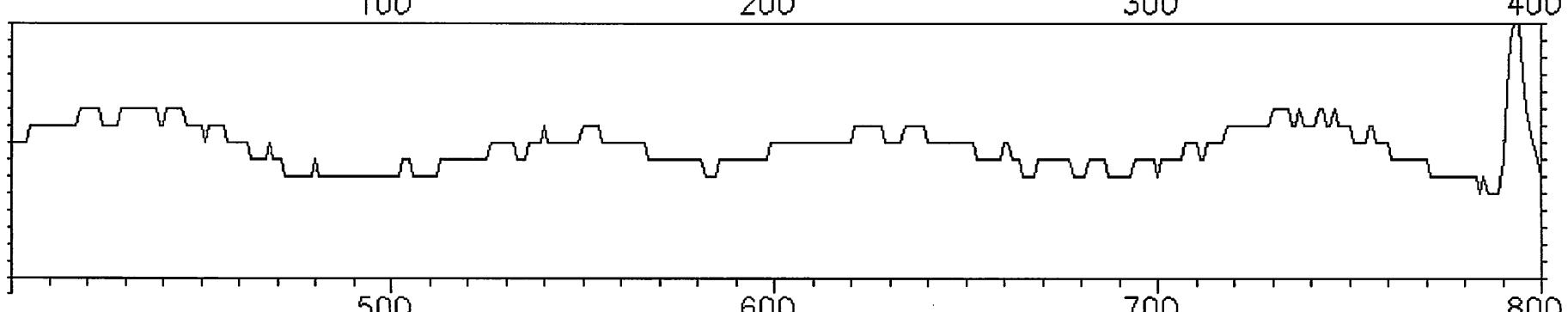
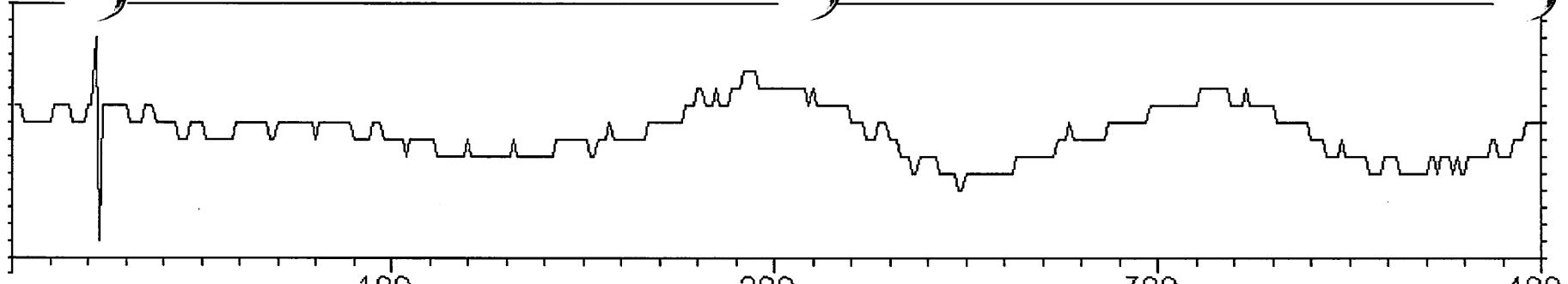
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Voyagers

2017-Day 014 12:18:28.663

Dust

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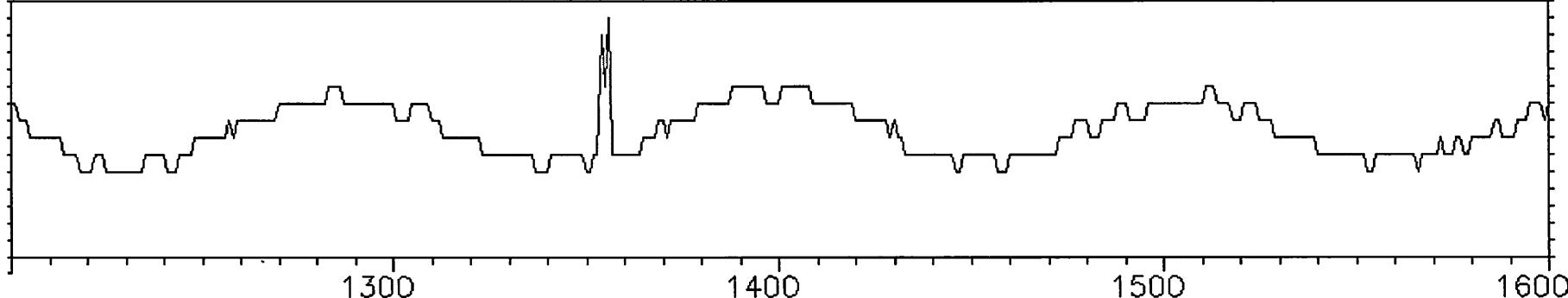
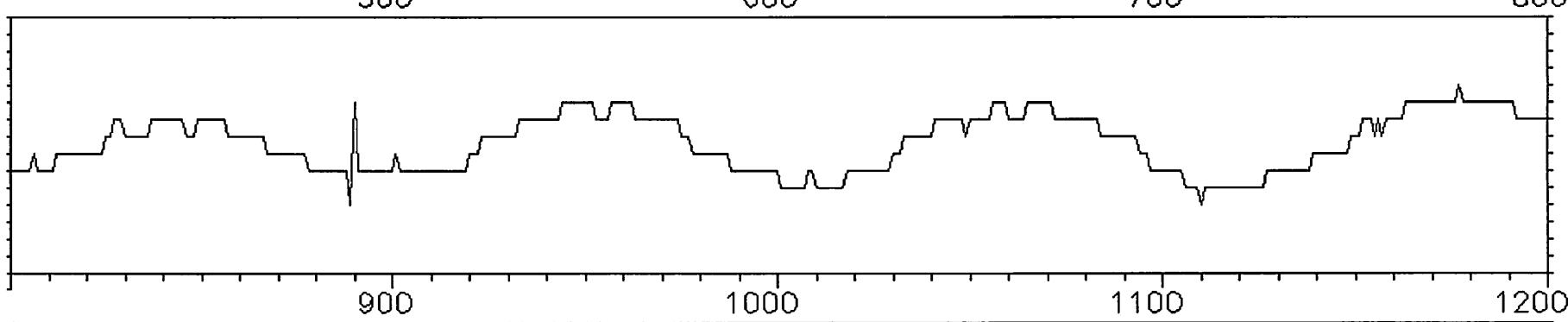
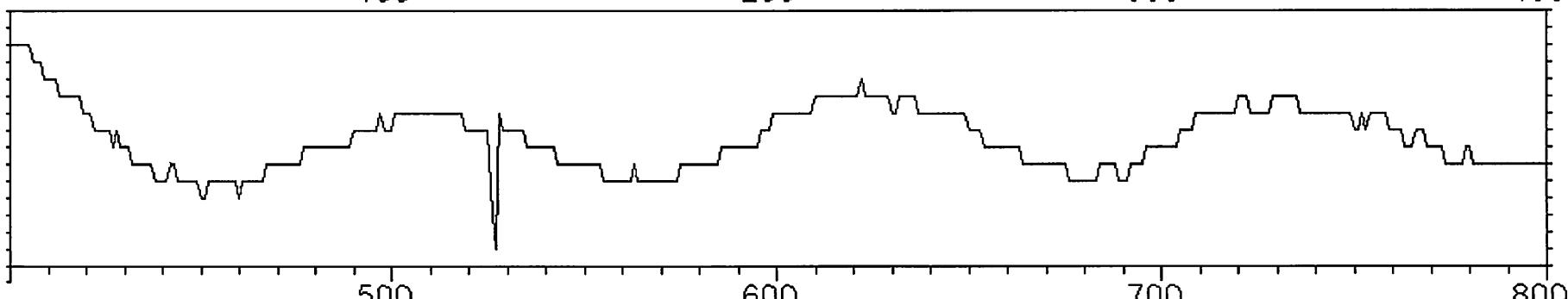
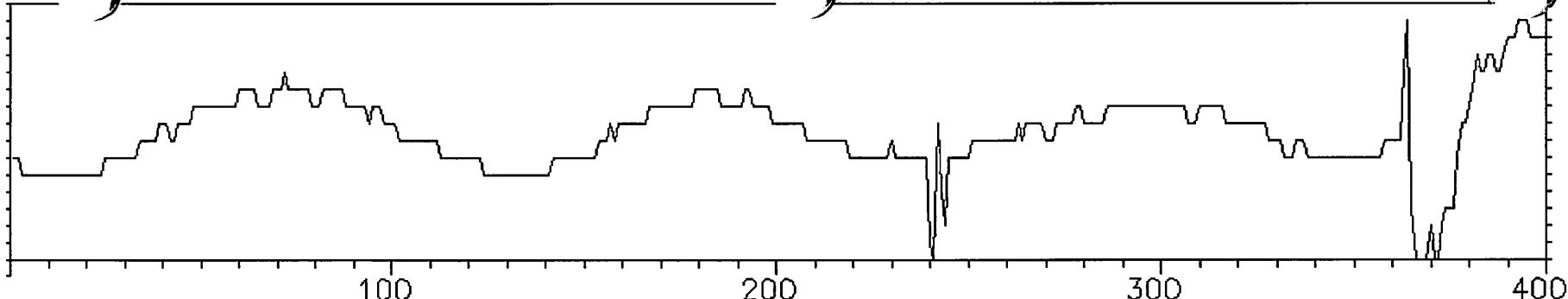
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Voyagers

2017 - Day 124 02:54:26.689

Dust

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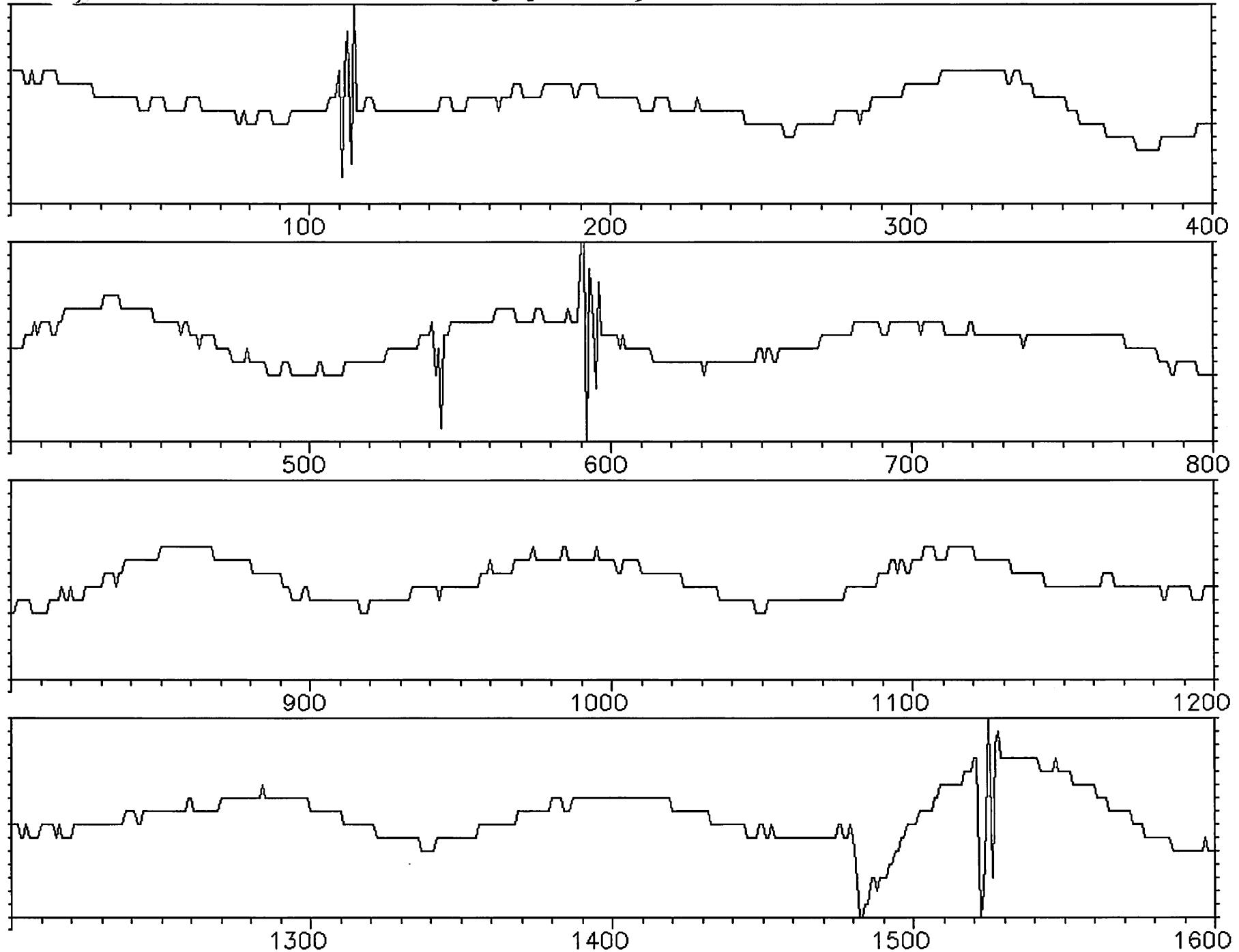
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Voyagers

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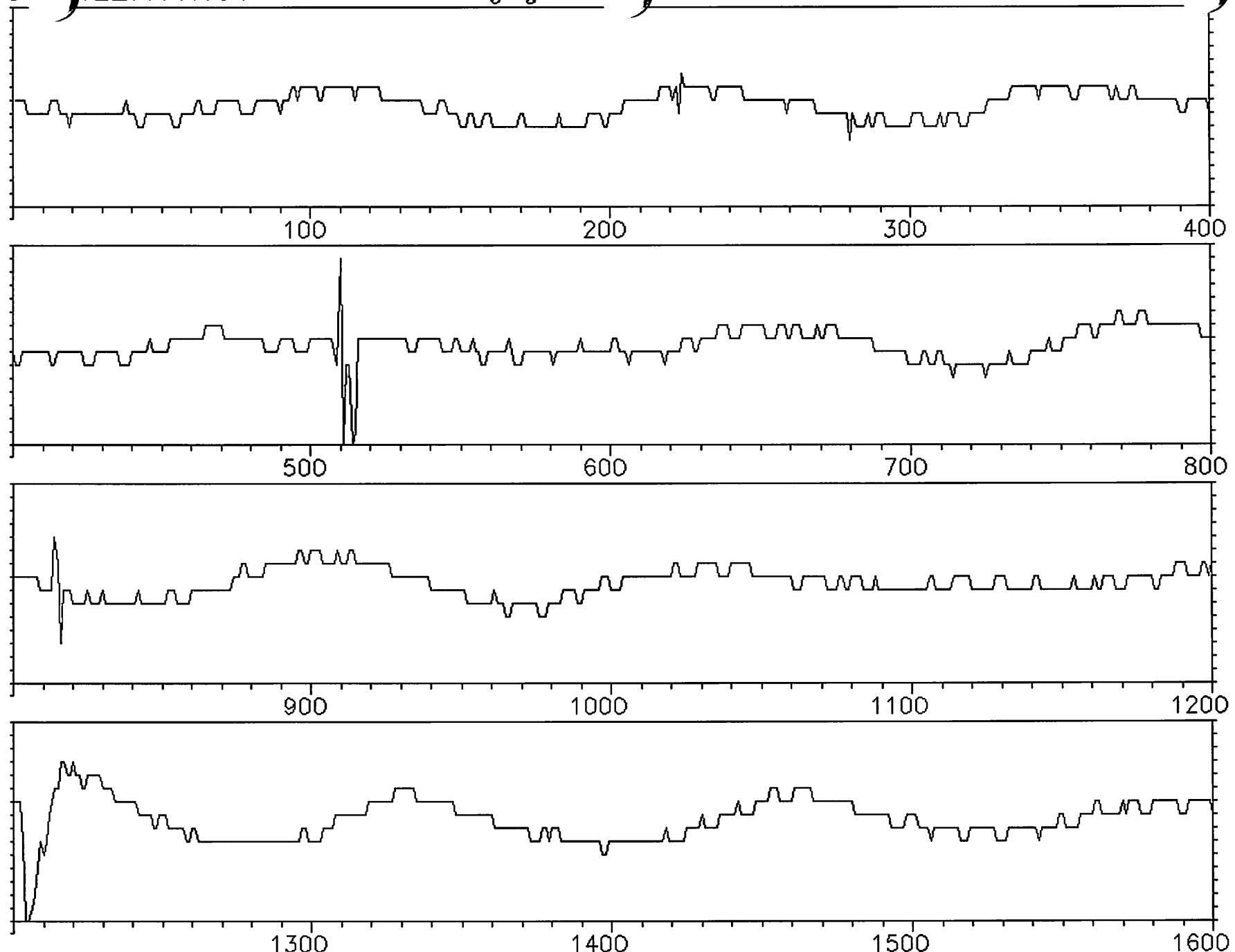
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Voyagers

2020, Day 294 05:28:07

Dust

PAGE\*\*



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Voyagers

2021, Day 359 10:41:23

Dust

PAGE\*\*

