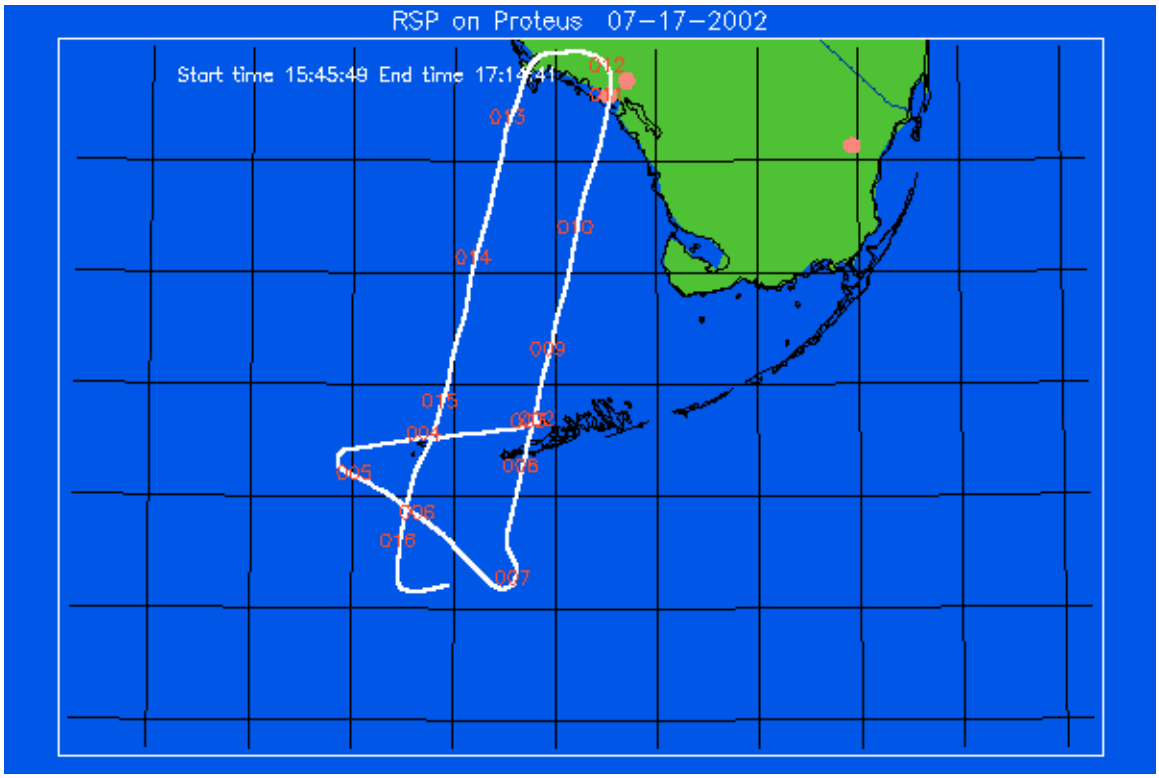
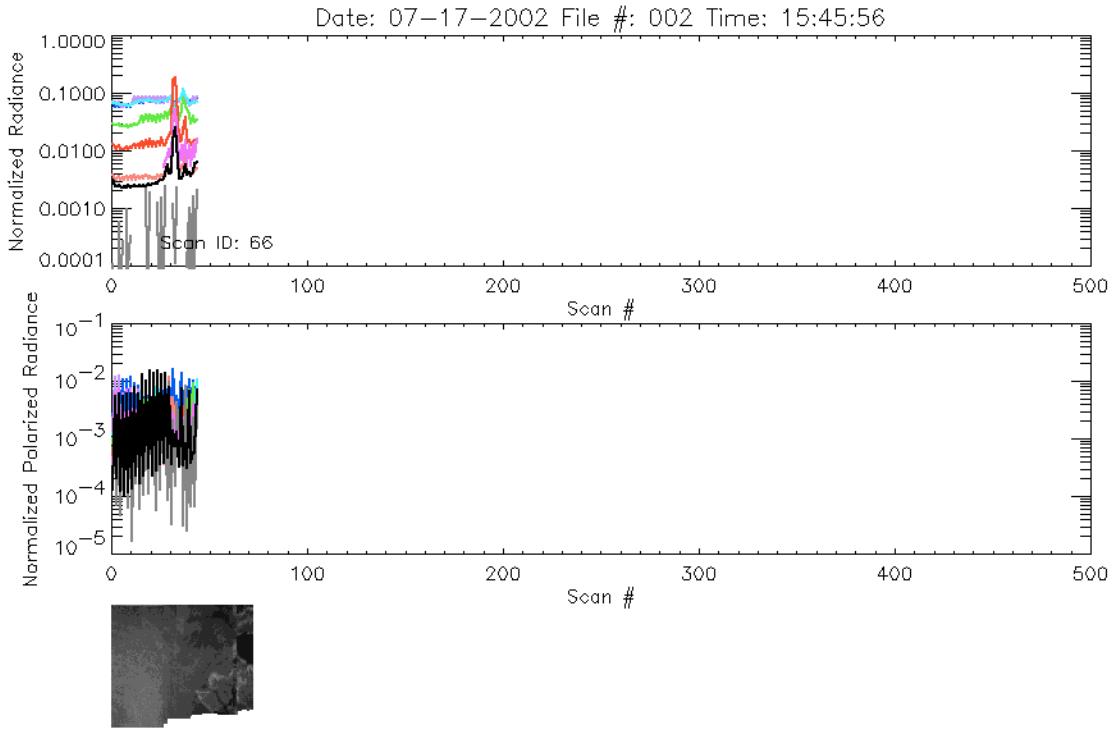
RSP Quick Look Data

In the following figures the flight tracks of the Proteus aircraft are shown with the location at which an RSP file (###) started overlaid on the flight track. These figures of the flight tracks are followed by plots of the nadir radiance and polarized radiance observed by the RSP at 410, 470, 555, 670, 865, 960, 1590, 1880 and 2250 (blue, mauve, turquoise, green, red, orange, fuschia, grey and black respectively) from the given files. The normalized radiance is shown in the top panel and the normalized polarized radiance is shown in the middle panel. The image at the bottom of each RSP data file figure is constructed from overlapping strip images which are sequentially cross correlated with one another. This is used as a check on aircraft attitude and v/h among inhomogeneous clouds. The real and imaginary values of refractive index for water and ice for the SWIR bands are:

	NRIce	NIIce	NRWat	NIWat
1.58886	1.2895	0.000318	1.3182	0.000104
1.88447	1.2788	0.000317	1.3101	0.000880
2.26438	1.2562	0.000254	1.2875	0.000419

This means that typically for ice clouds the 1590 reflectance is lower than the 2250 nm reflectance. The RSP instrument scans along track and so for each nadir pixel shown in these figures there are also measurements over a view angle range of +50° to -70° (positive is in the direction of aircraft motion) every 0.8°.




Date: 07-17-2002 File #: 002 Time: 15:45:56
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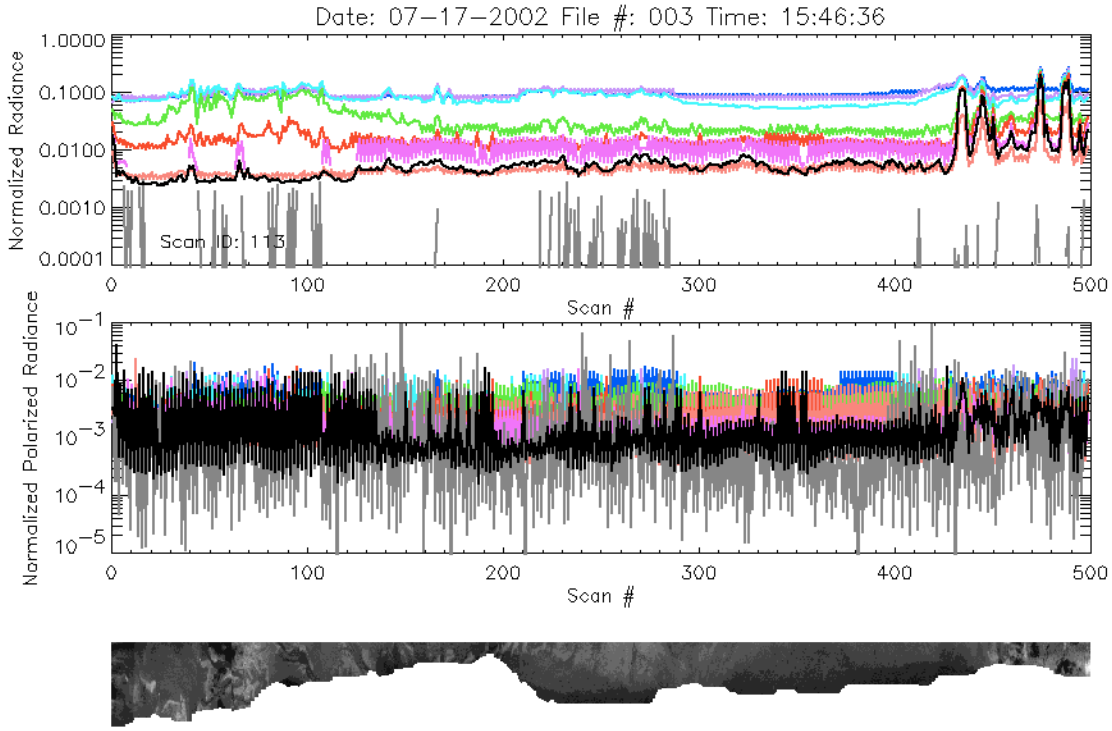
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 66
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #


Date: 07-17-2002 File #: 003 Time: 15:46:36
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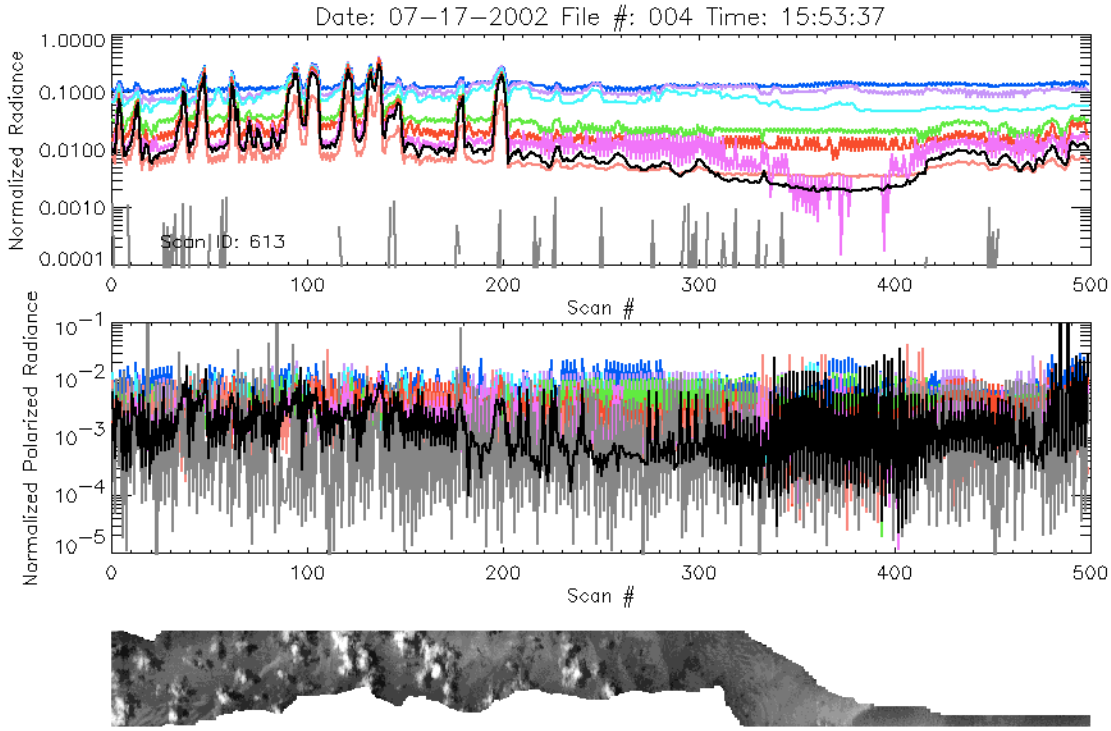
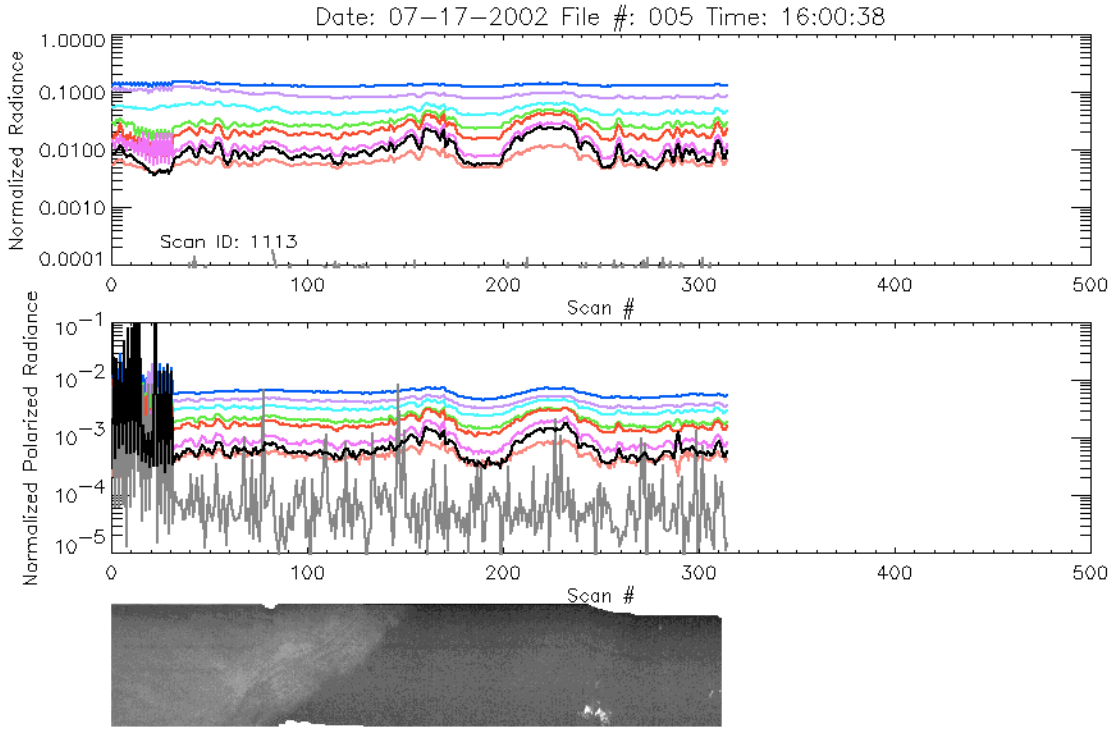
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 113
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #


Date: 07-17-2002 File #: 004 Time: 15:53:37
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 613
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #


Date: 07-17-2002 File #: 005 Time: 16:00:38
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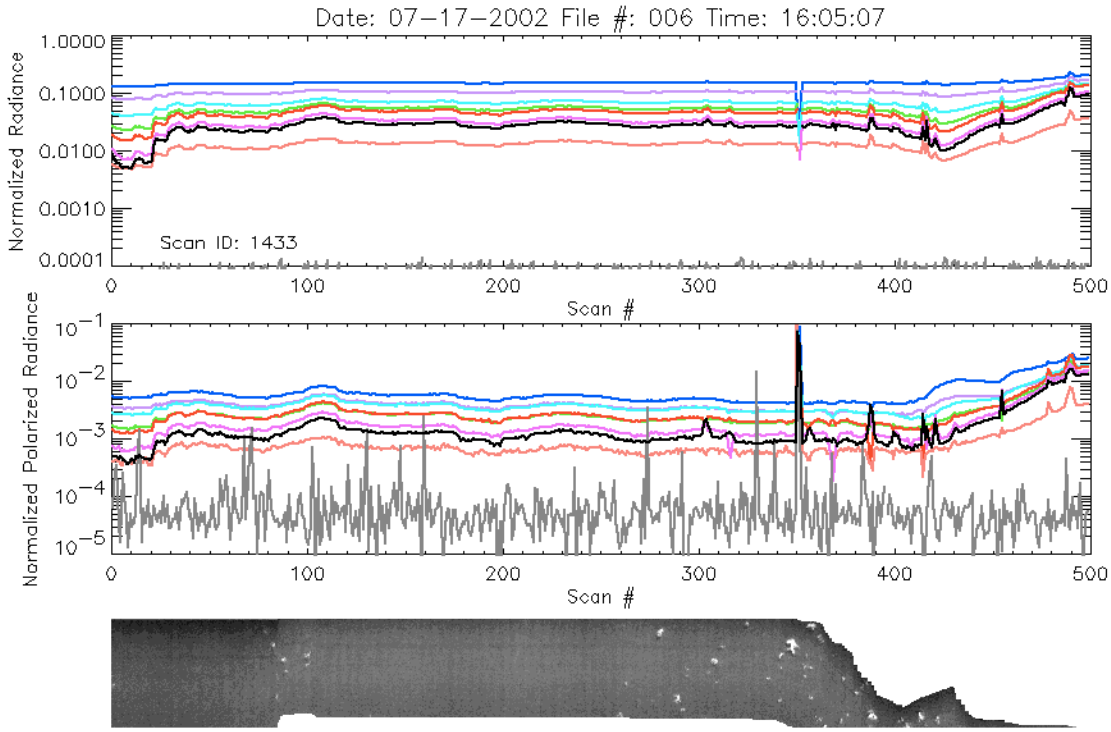
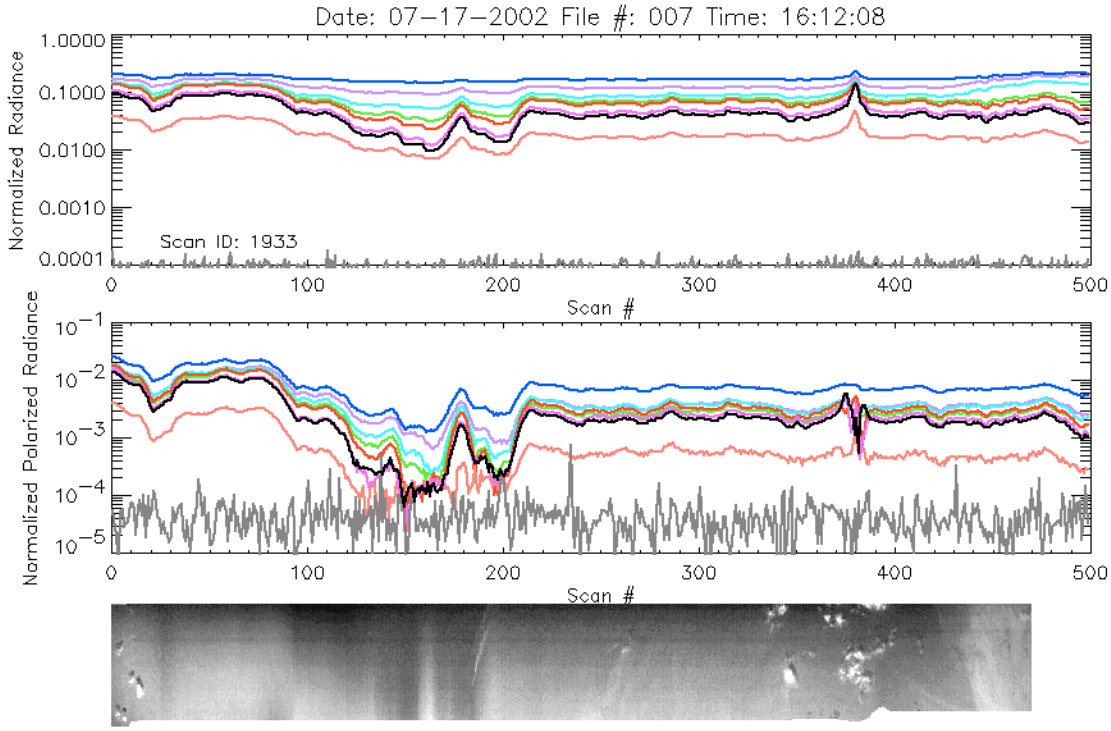
0.1000
0.0100
0.0010
0.0001
Scan ID: 1113
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #


Date: 07-17-2002 File #: 006 Time: 16:05:07
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 1433
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #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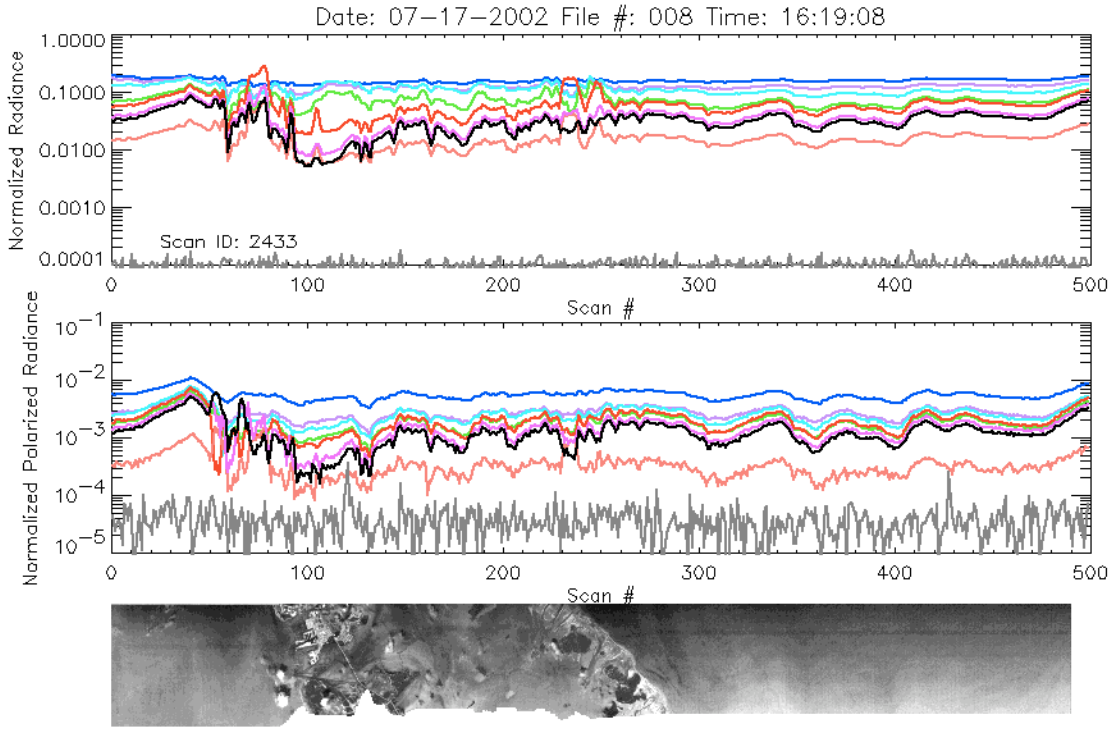
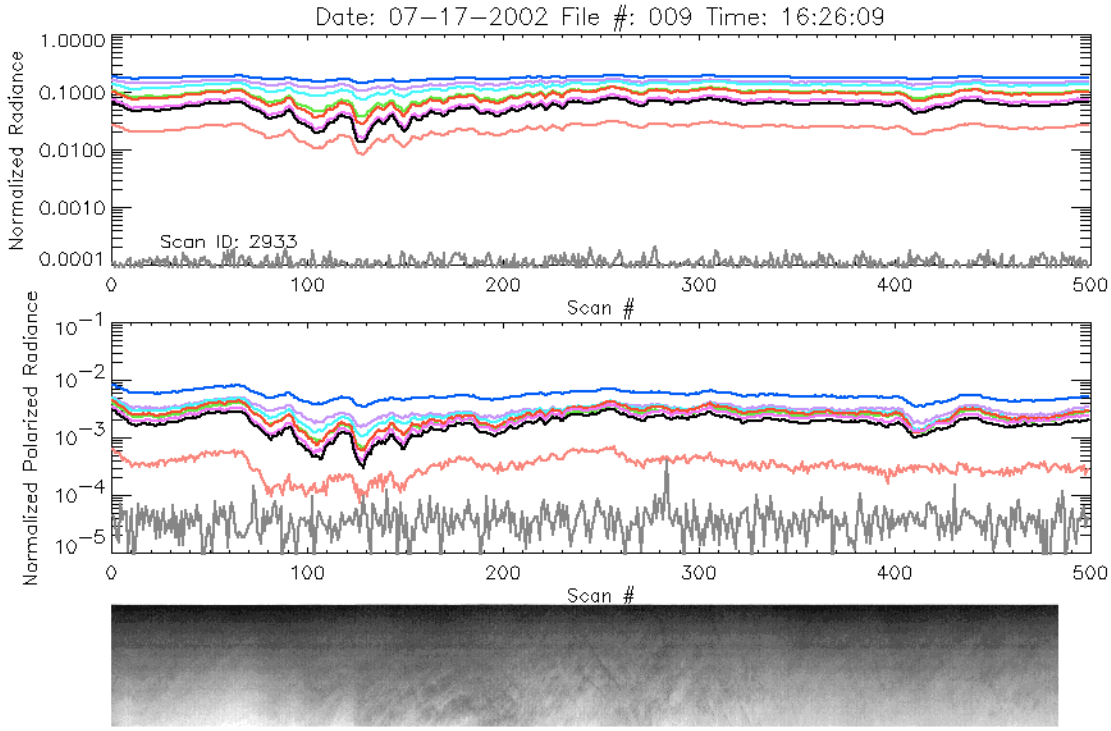
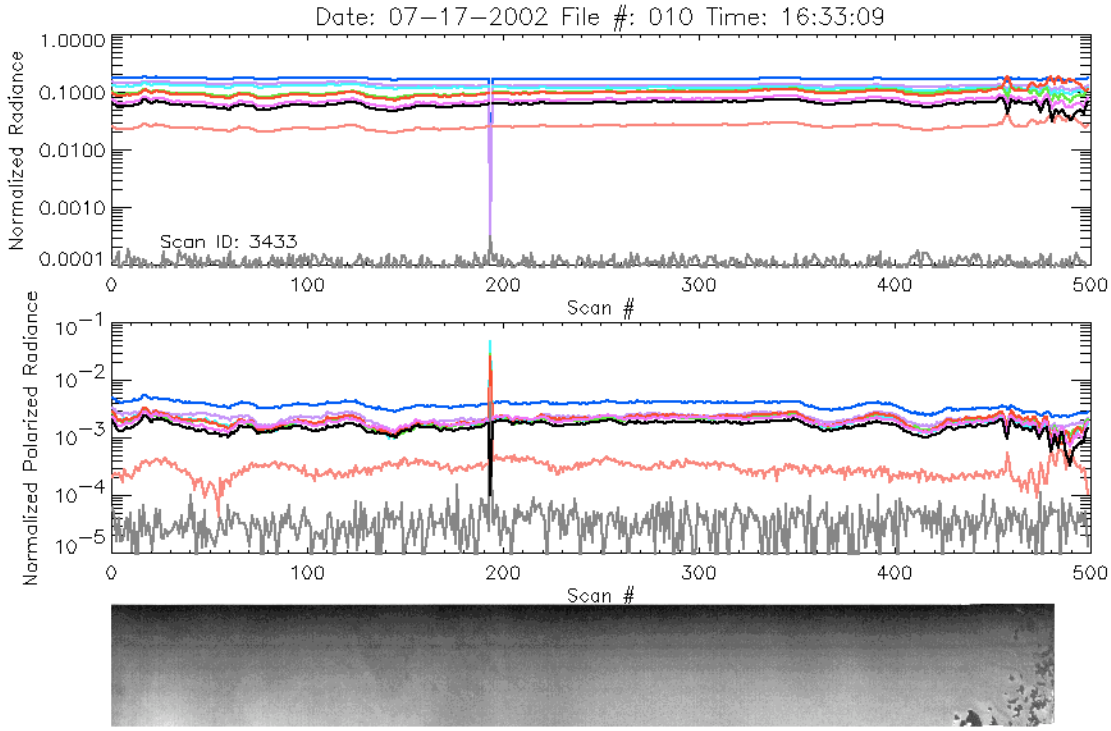
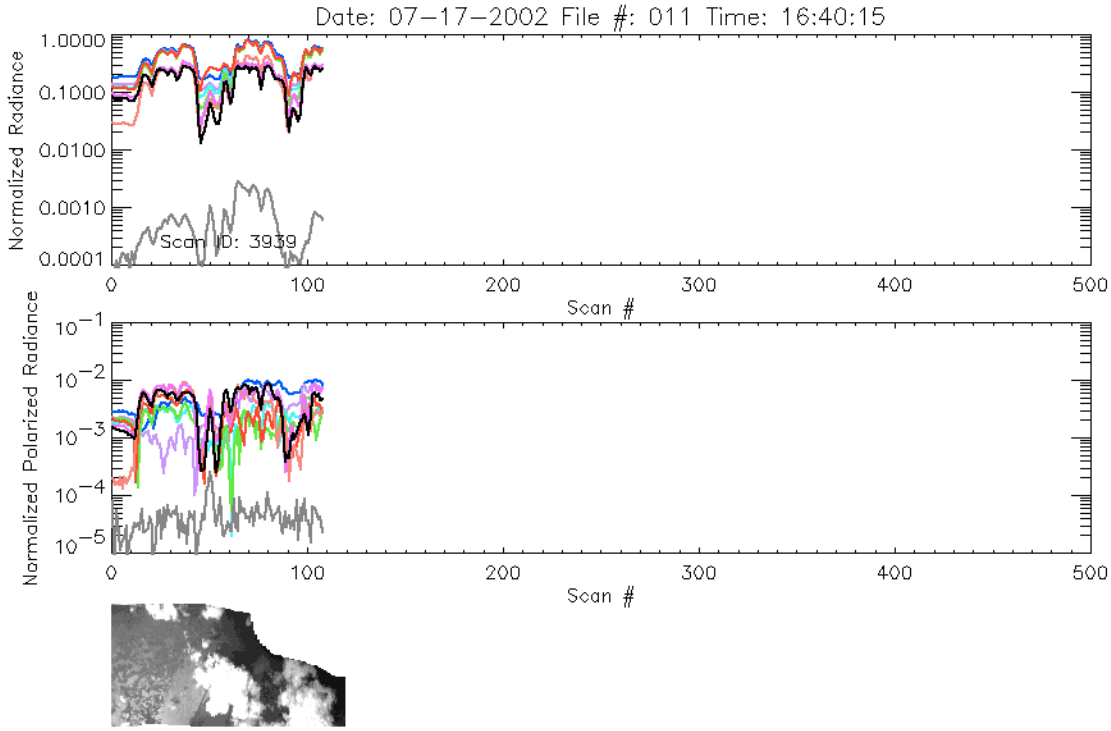
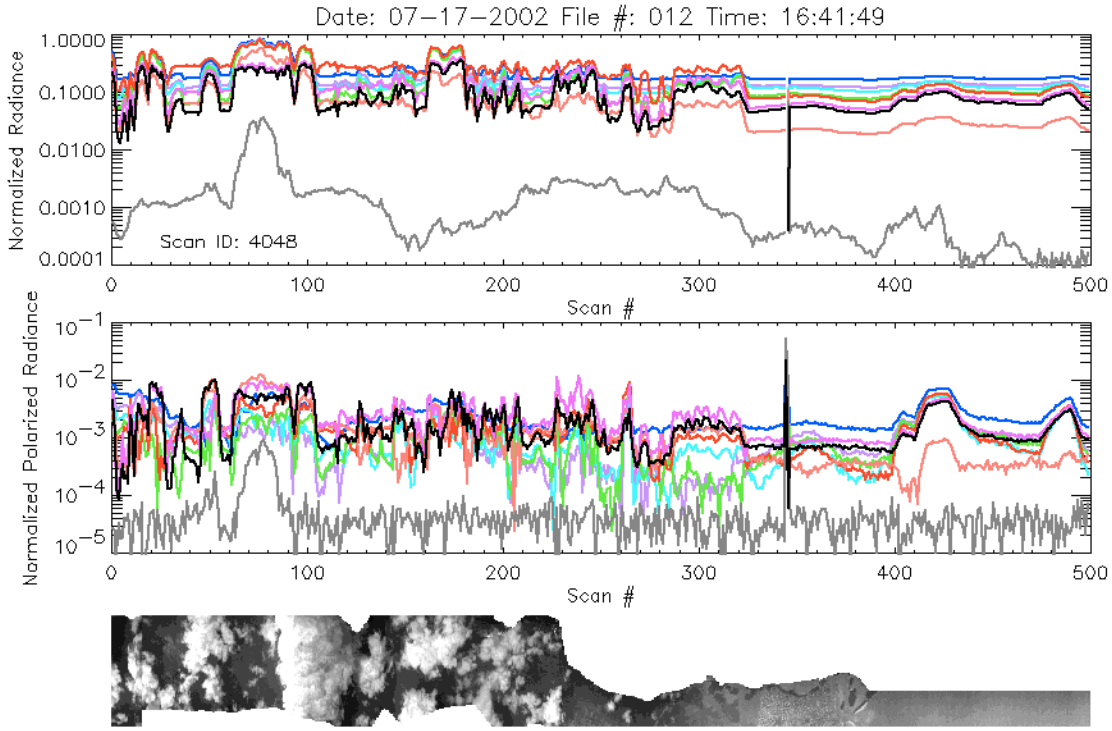
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 1933
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #

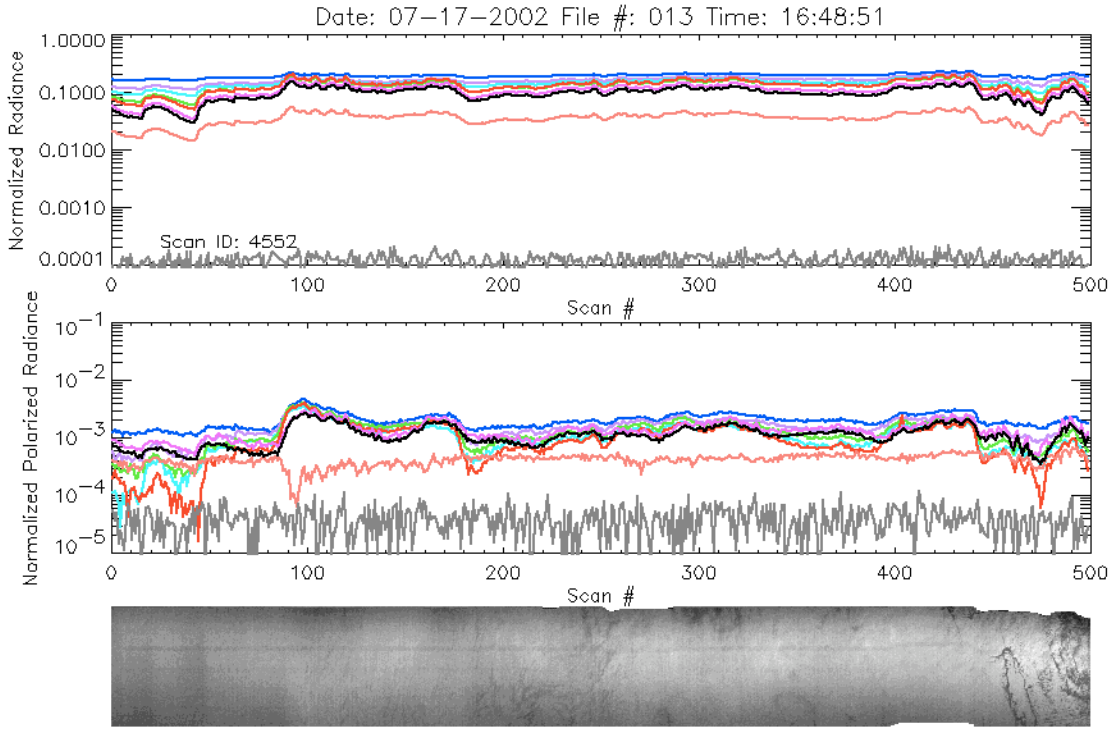

Date: 07-17-2002 File #: 008 Time: 16:19:08
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 2433
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #

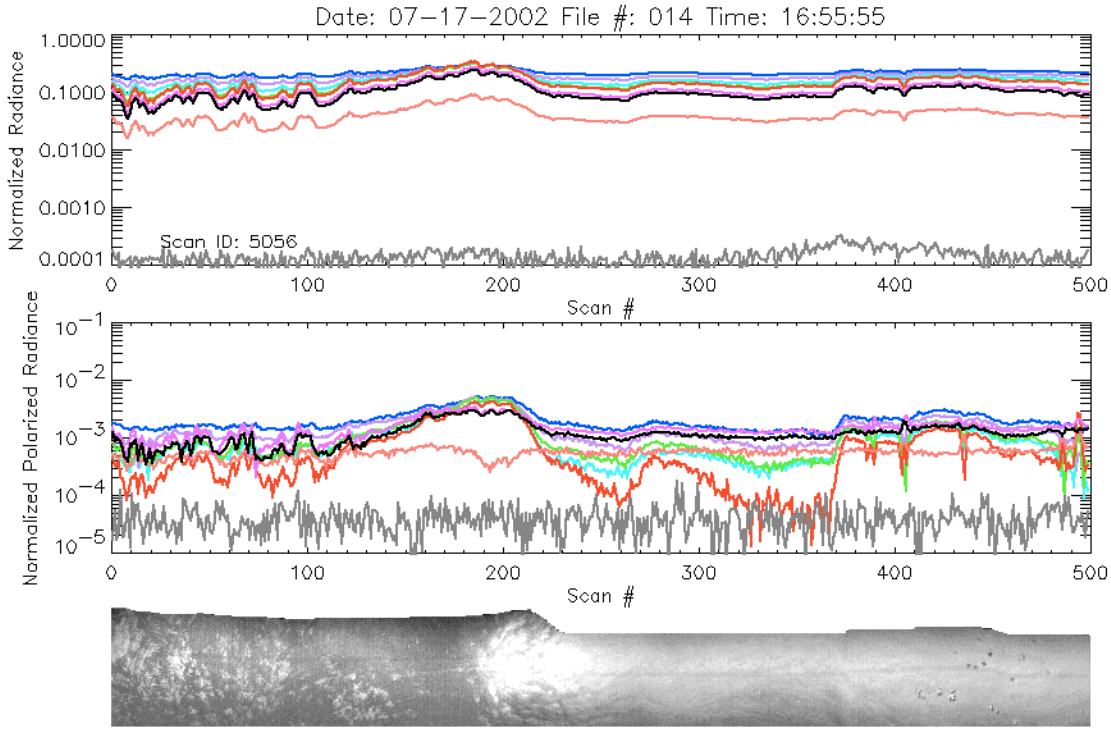

Date: 07-17-2002 File #: 009 Time: 16:26:09
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 2933
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #

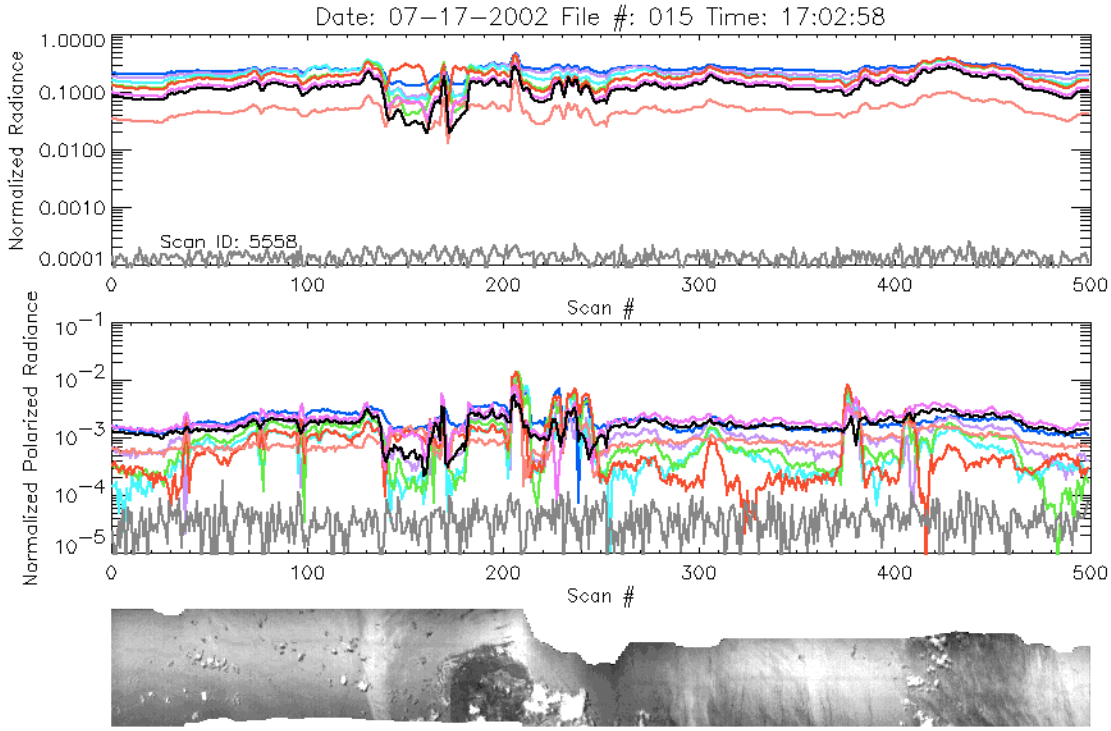

Date: 07-17-2002 File #: 010 Time: 16:33:09
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 3433
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #

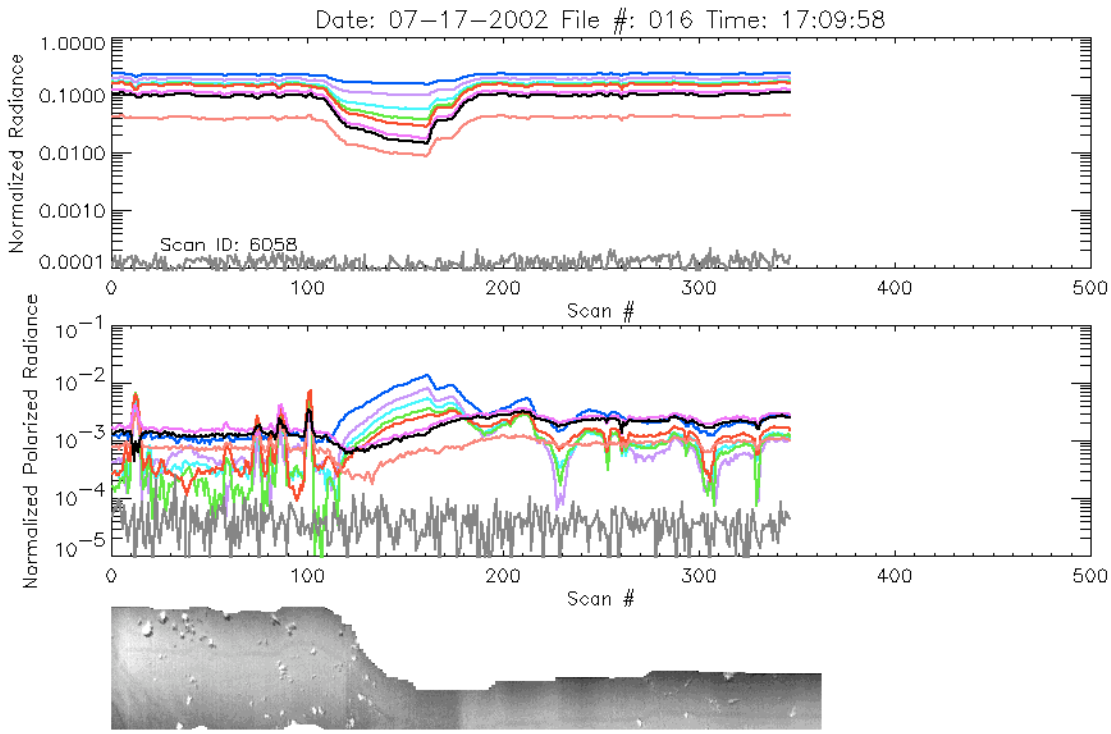

Date: 07-17-2002 File #: 011 Time: 16:40:15
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 3939
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #

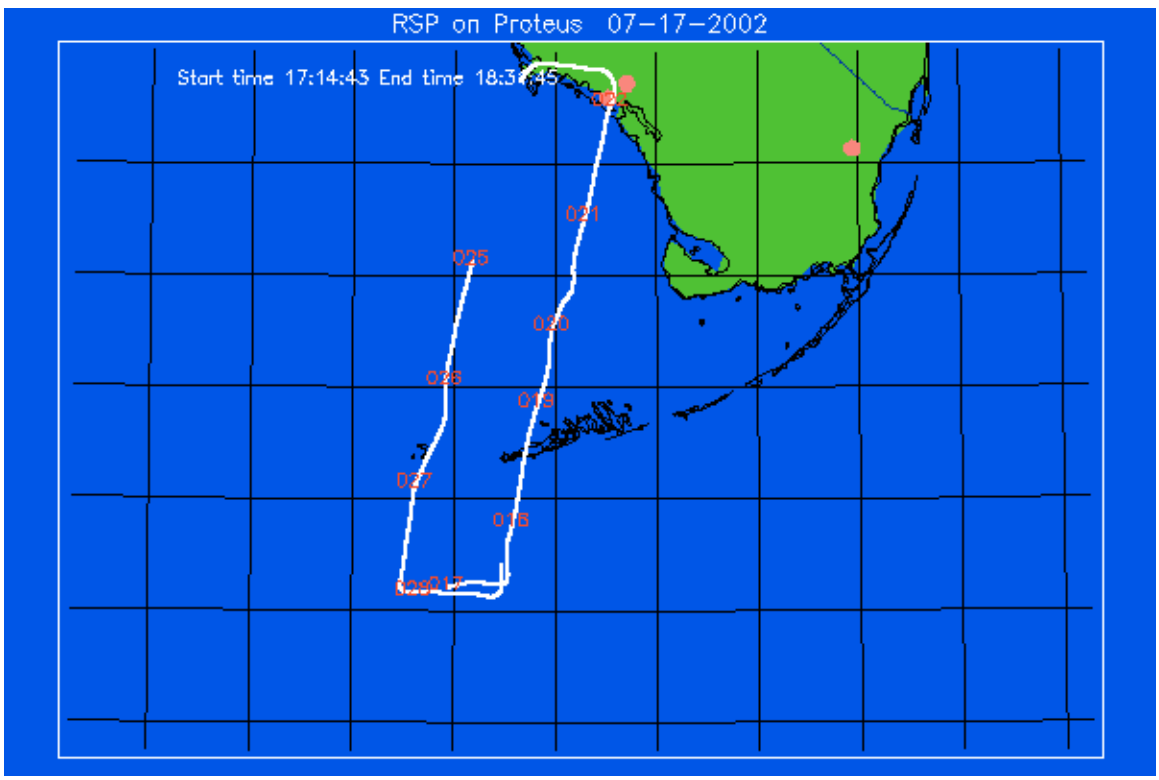

Date: 07-17-2002 File #: 012 Time: 16:41:49
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 4048
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #

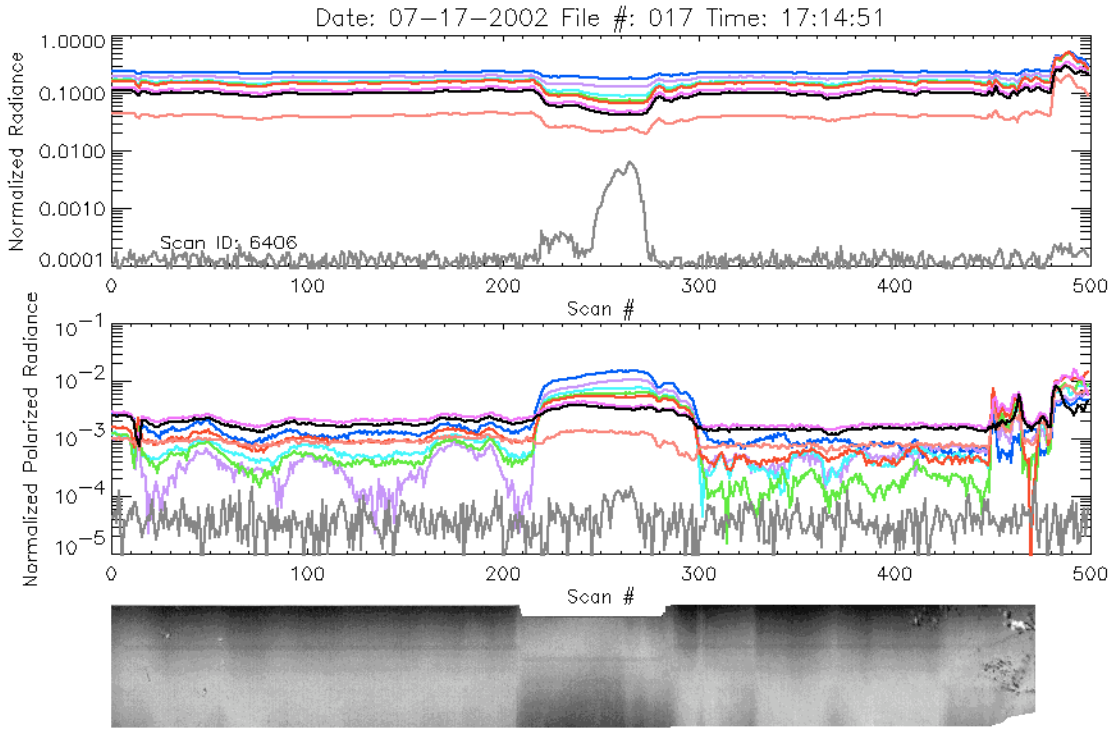

Date: 07-17-2002 File #: 013 Time: 16:48:51
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 4552
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #

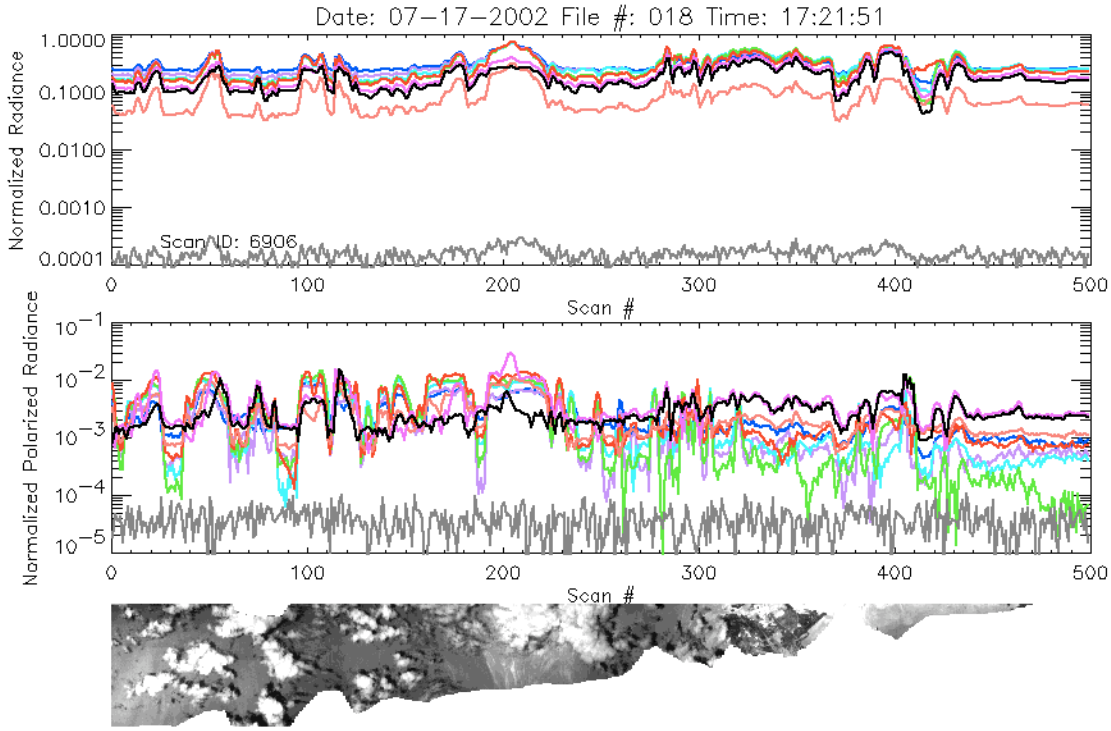

Date: 07-17-2002 File #: 014 Time: 16:55:55
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 5056
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
0
100
200
300
400
500
Scan #

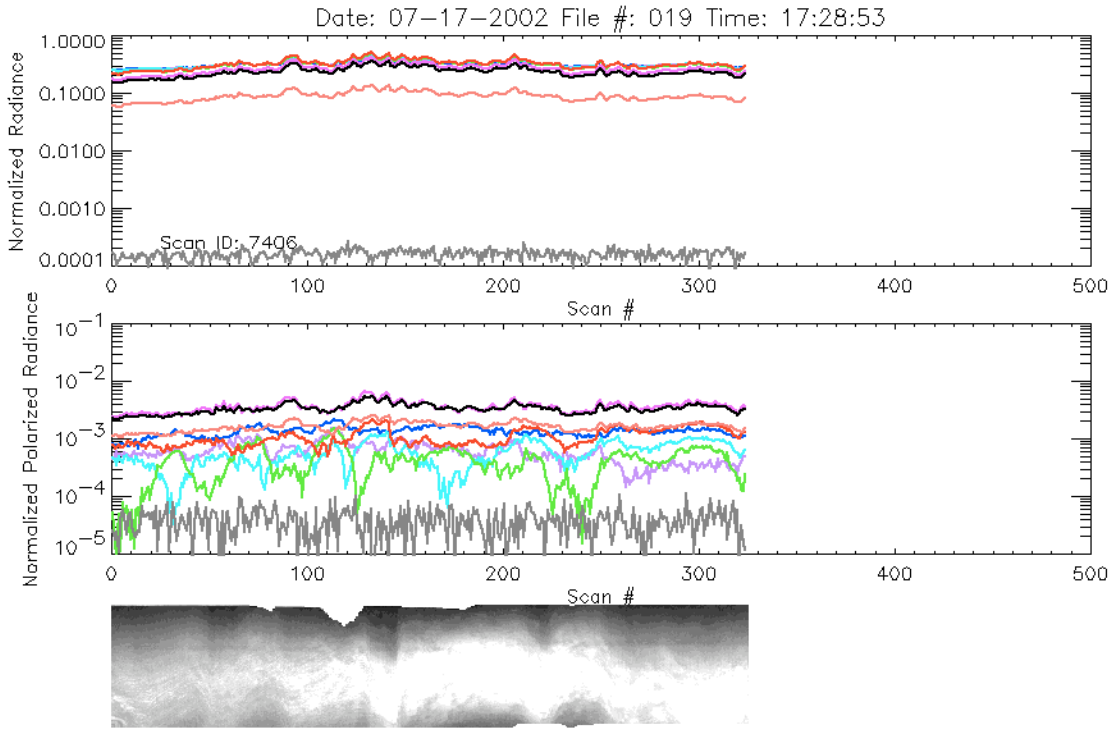

Date: 07-17-2002 File #: 015 Time: 17:02:58
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 5558
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
0
100
200
300
400
500
Scan #

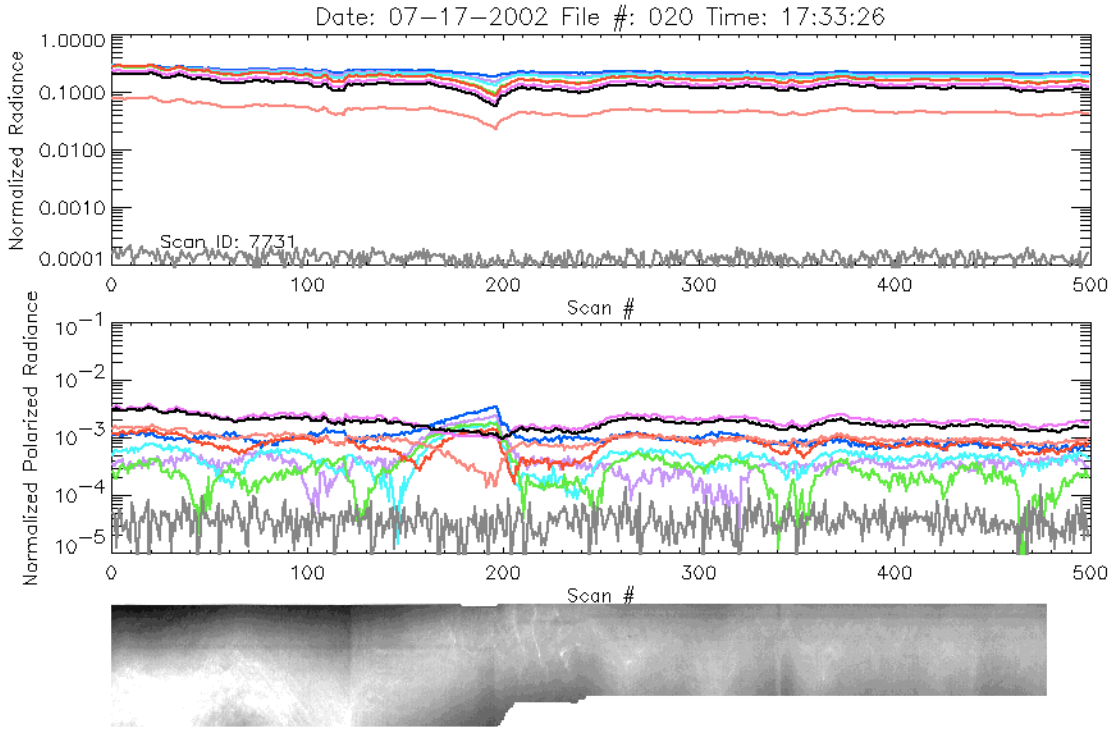

Date: 07-17-2002 File #: 016 Time: 17:09:58
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 6058
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
0
100
200
300
400
500
Scan #

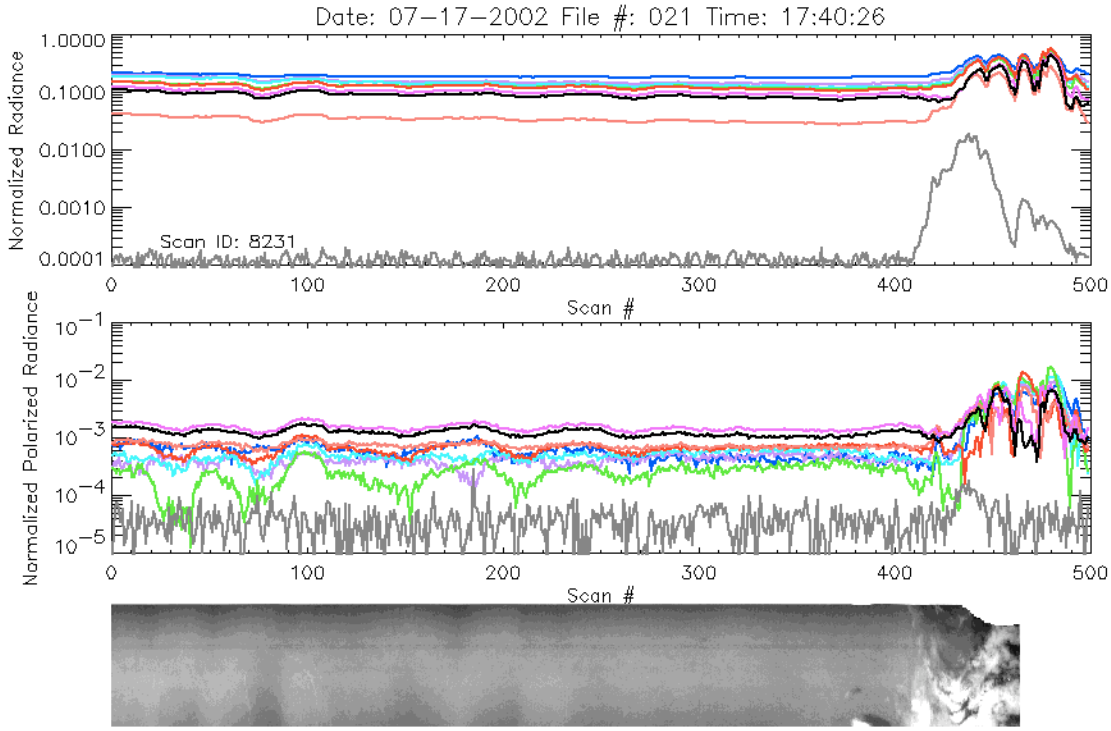

RSP on Proteus 07-17-2002
Start time 17:14:43 End time 18:37:45
021
025
020
026
019
027
018

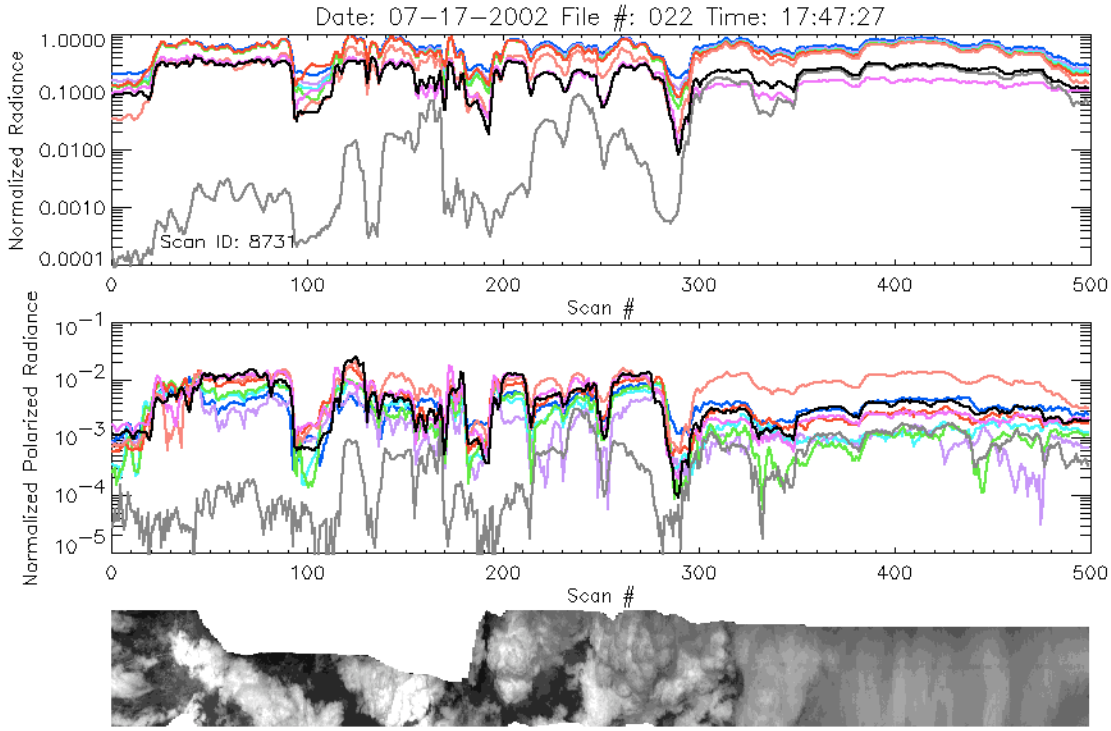

Date: 07-17-2002 File #: 017 Time: 17:14:51
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 6406
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #

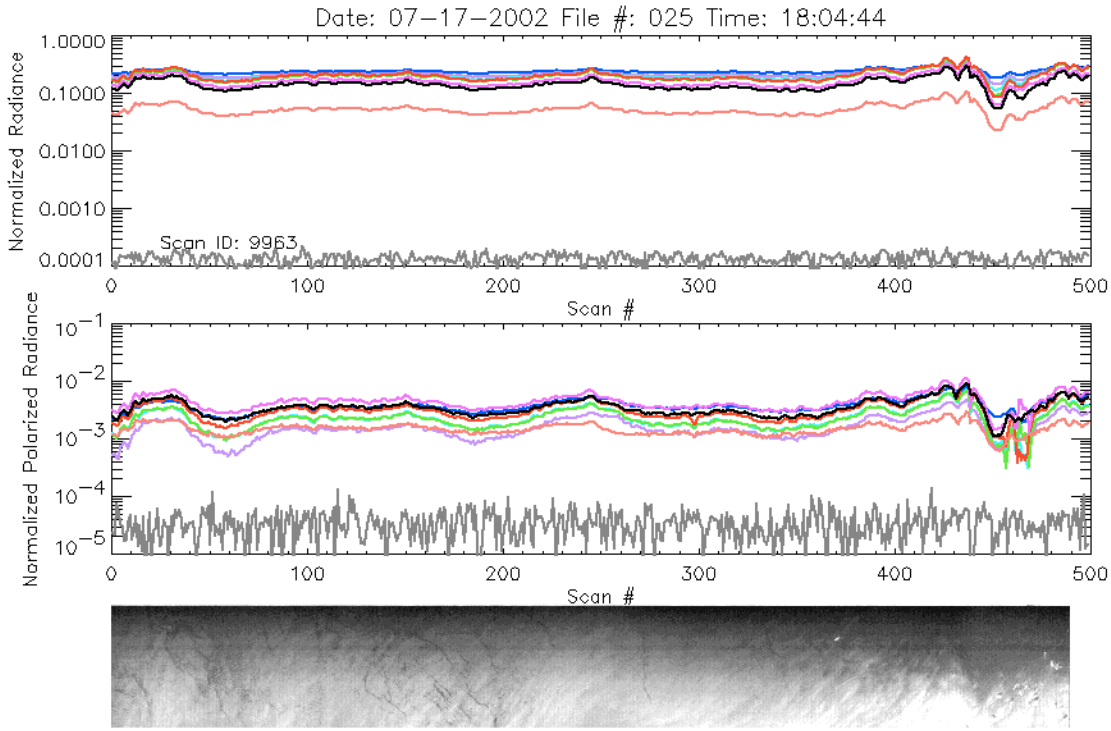

Date: 07-17-2002 File #: 018 Time: 17:21:51
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 6906
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #

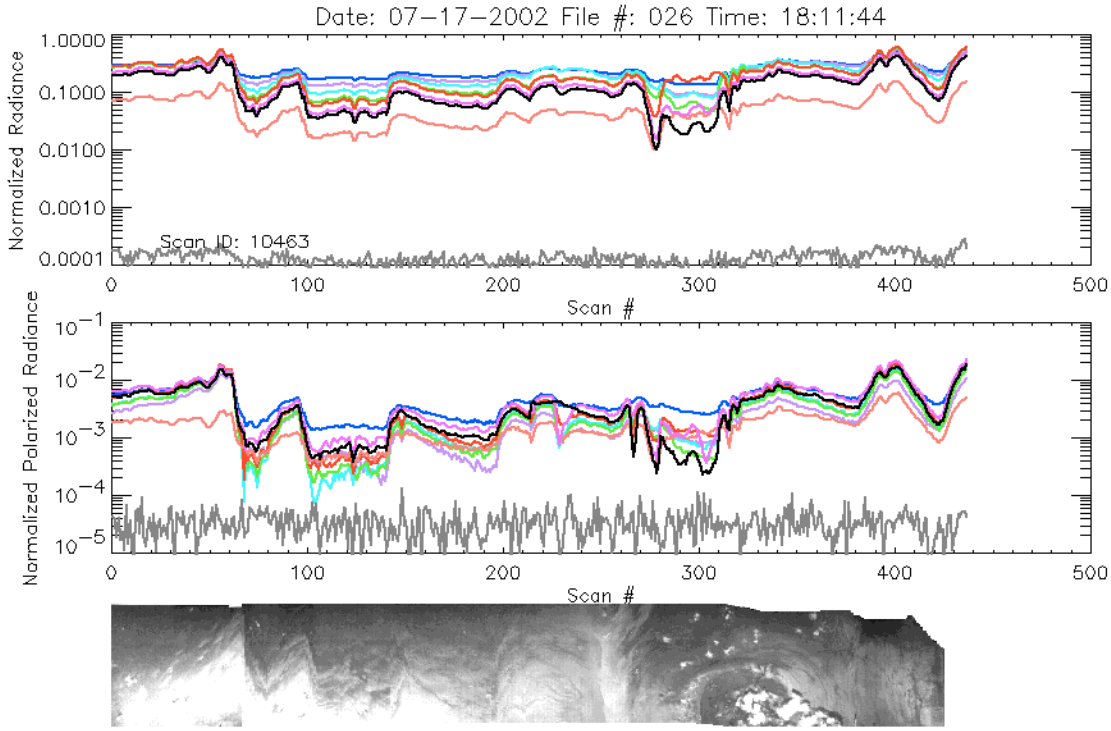

Date: 07-17-2002 File #: 019 Time: 17:28:53
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 7406
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
0
100
200
300
400
500
Scan #

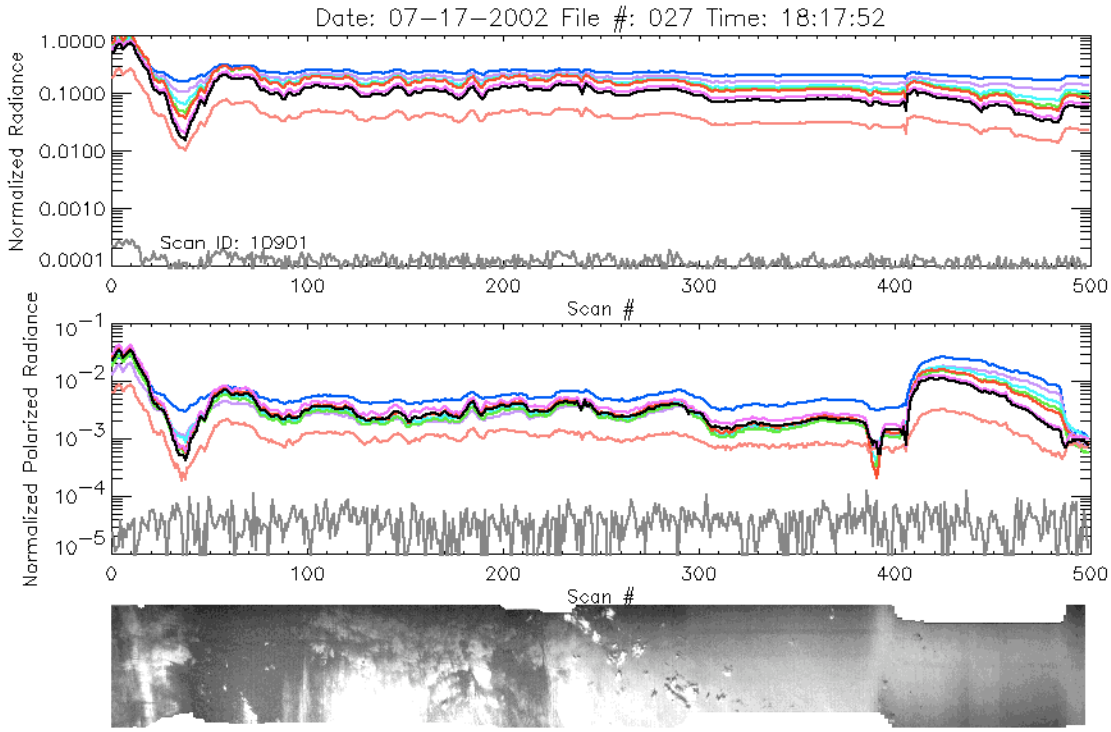

Date: 07-17-2002 File #: 020 Time: 17:33:26
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 7731
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
0
100
200
300
400
500
Scan #

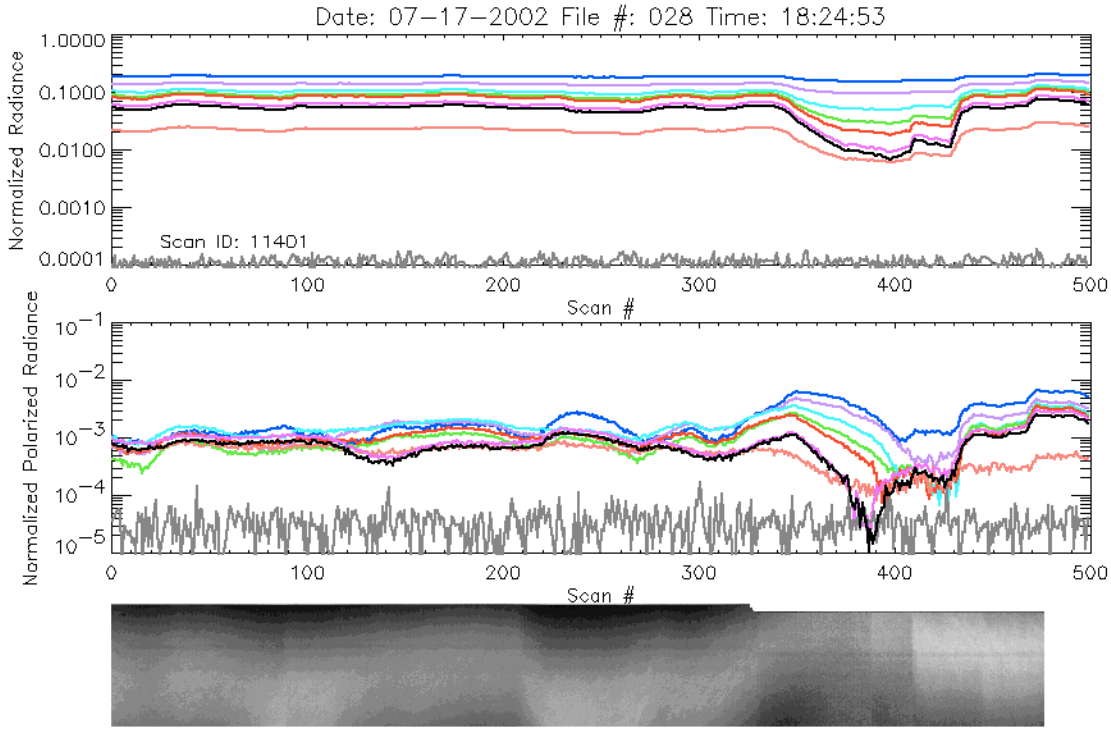

Date: 07-17-2002 File #: 021 Time: 17:40:26
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 8231
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #

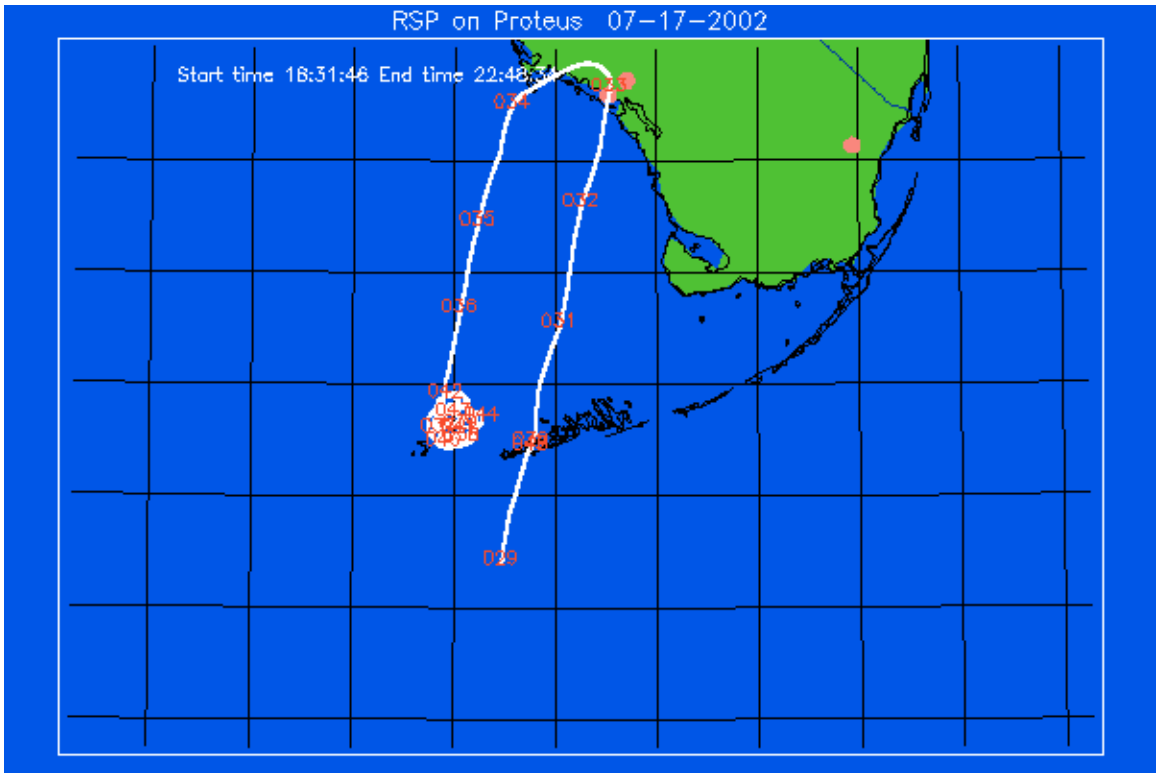

Date: 07-17-2002 File #: 022 Time: 17:47:27
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 8731
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #

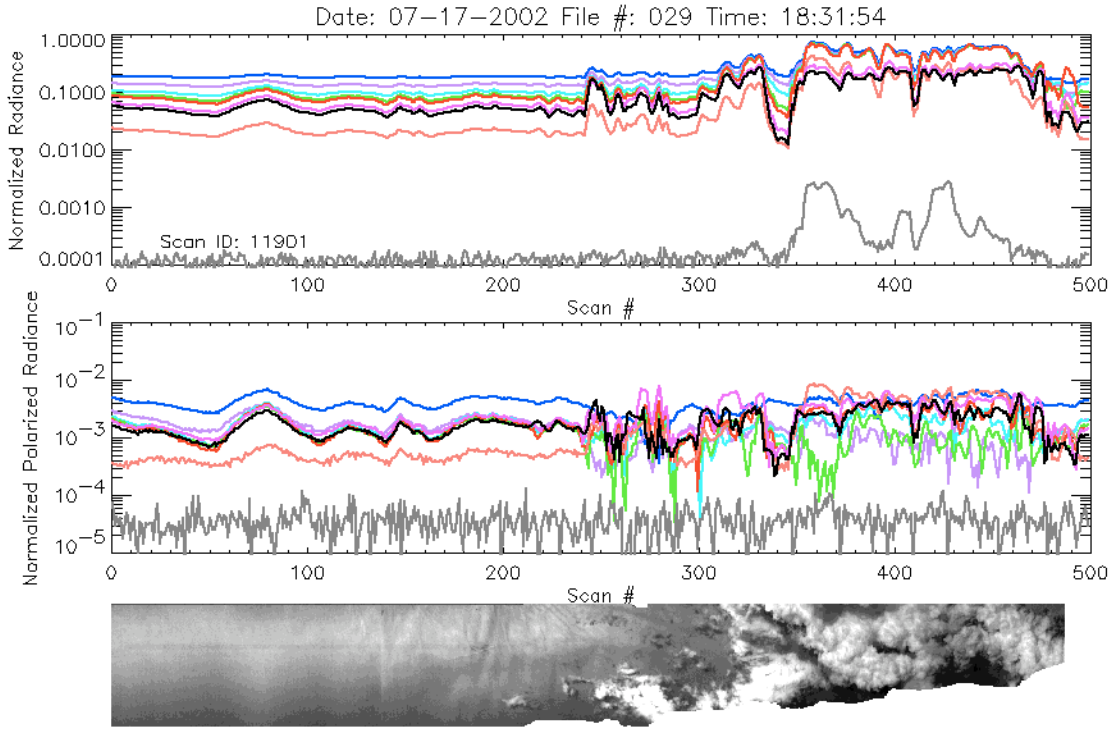

Date: 07-17-2002 File #: 025 Time: 18:04:44
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 9963
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #

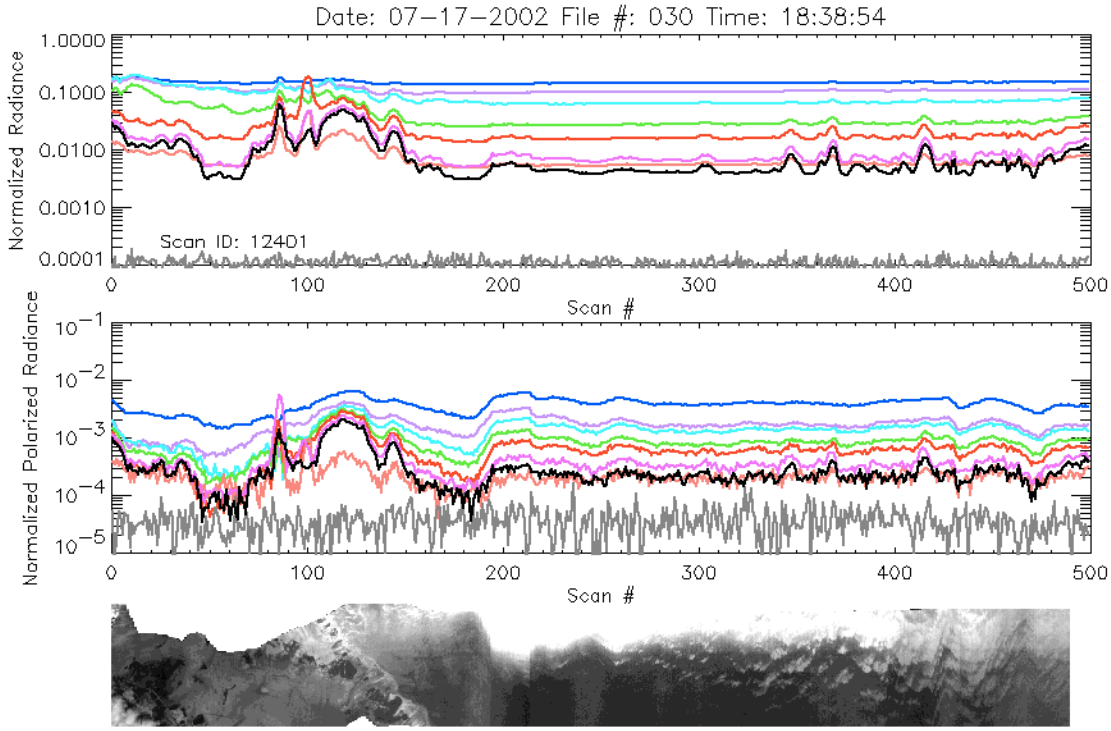

Date: 07-17-2002 File #: 026 Time: 18:11:44
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 10463
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #

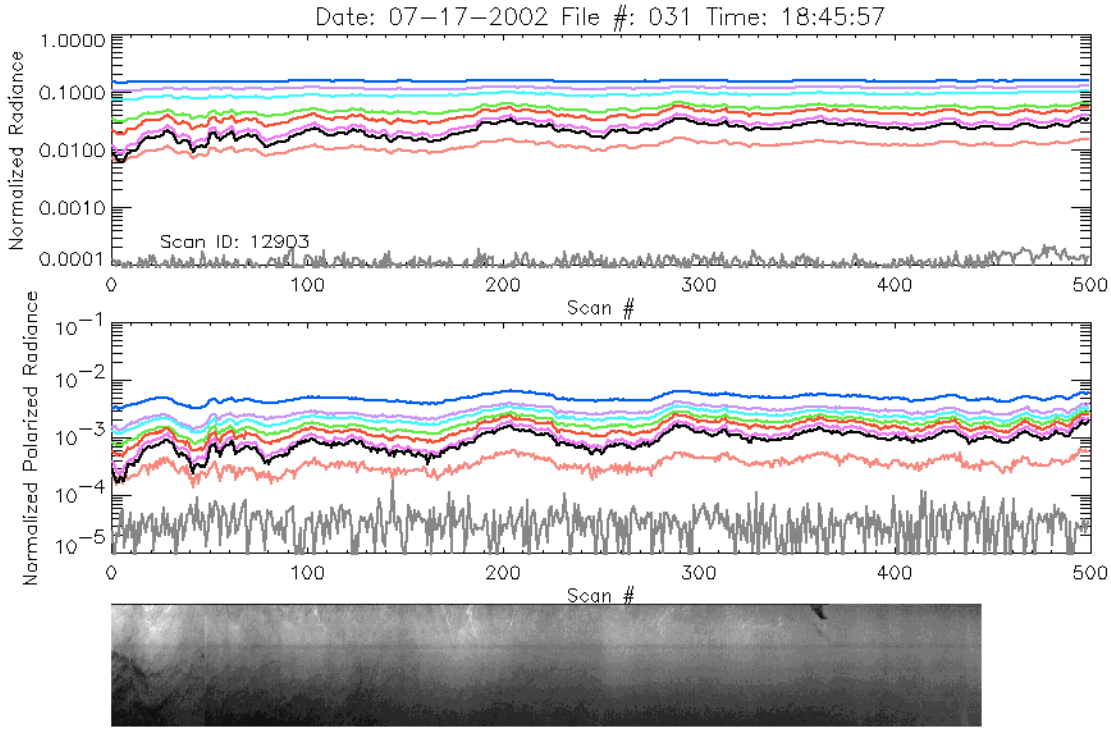

Date: 07-17-2002 File #: 027 Time: 18:17:52
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 10901
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
0
100
200
300
400
500
Scan #

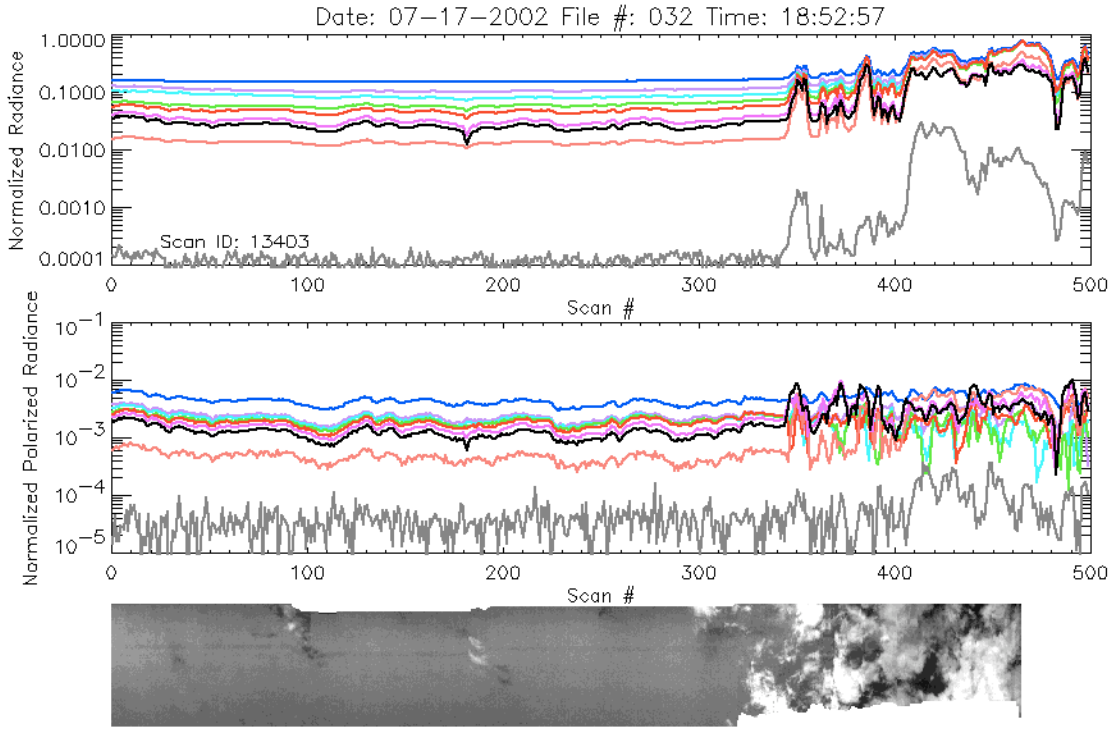

Date: 07-17-2002 File #: 028 Time: 18:24:53
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 11401
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
0
100
200
300
400
500
Scan #

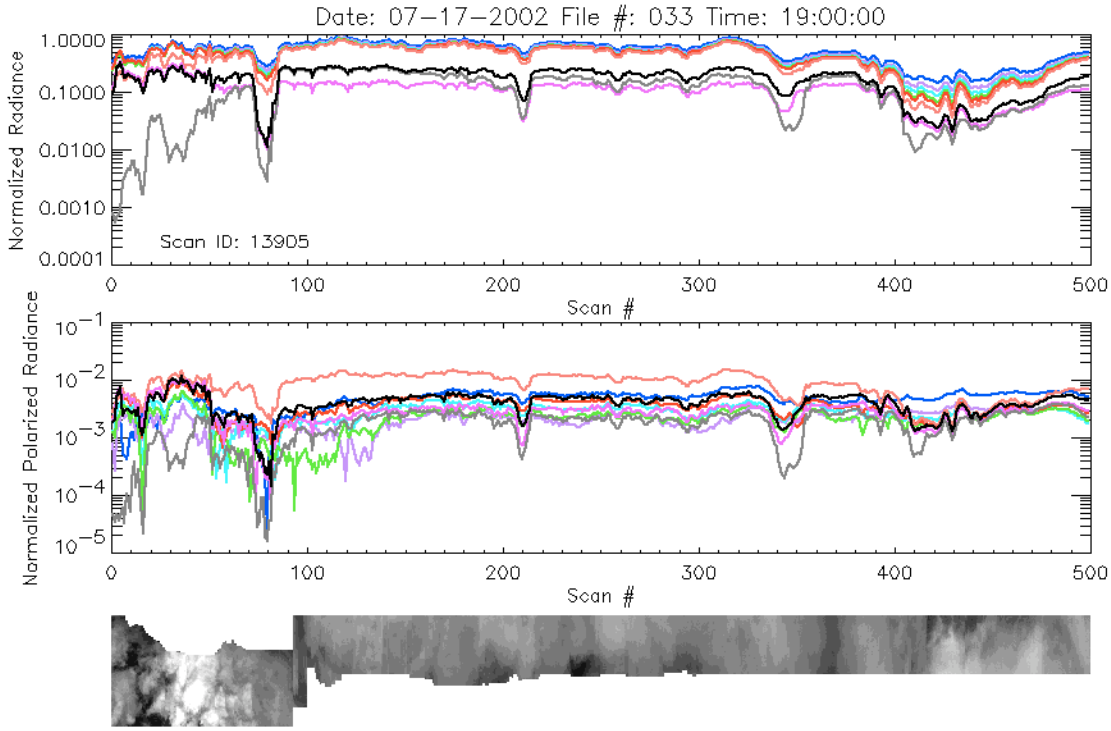

RSP on Proteus 07-17-2002
Start time 18:31:46 End time 22:48:34
034
033
032
036
031
029

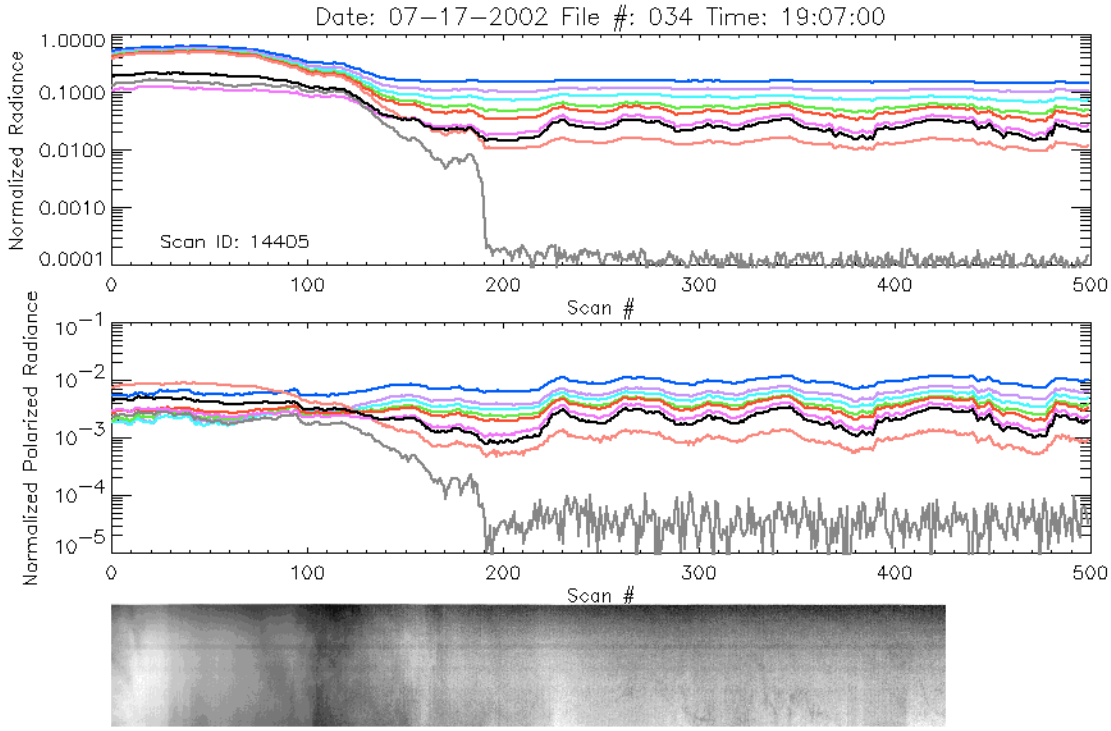

Date: 07-17-2002 File #: 029 Time: 18:31:54
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 11901
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
0
100
200
300
400
500
Scan #

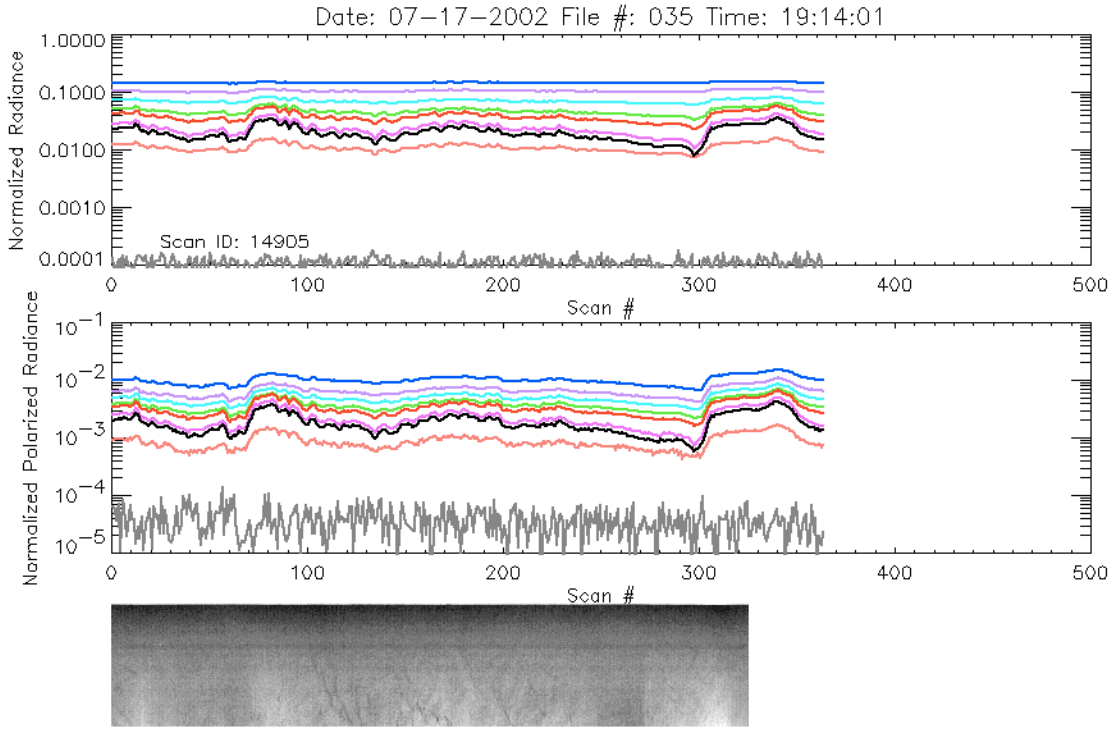

Date: 07-17-2002 File #: 030 Time: 18:38:54
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 12401
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #

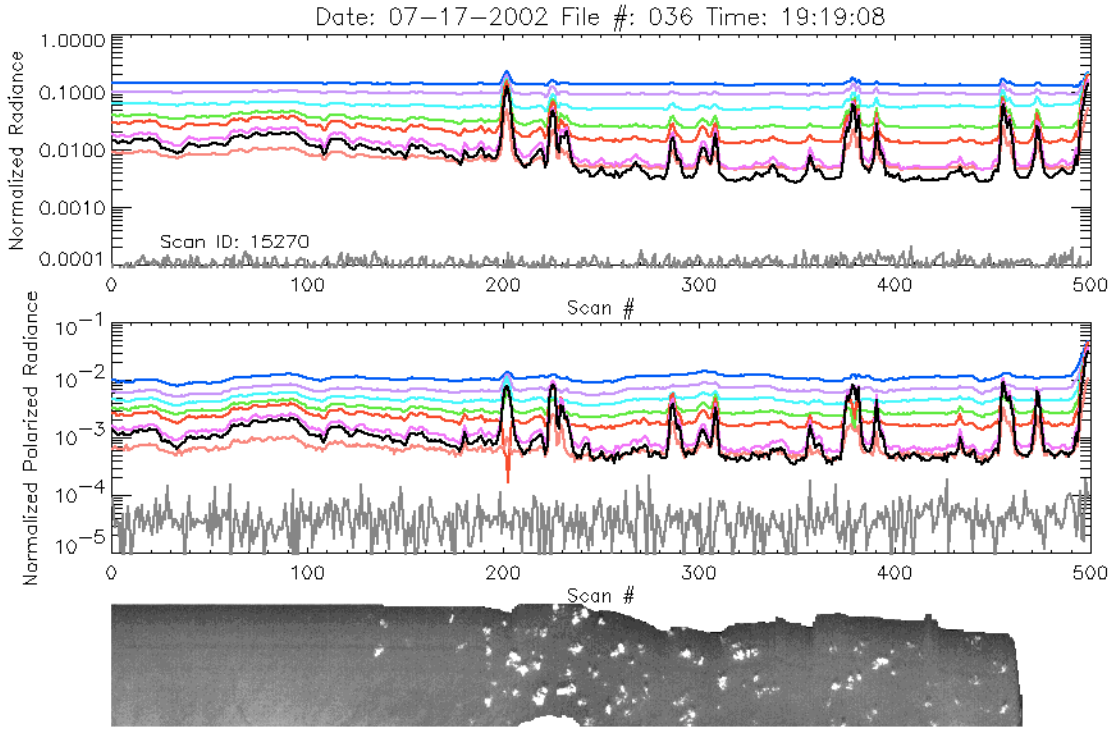

Date: 07-17-2002 File #: 031 Time: 18:45:57
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 12903
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #

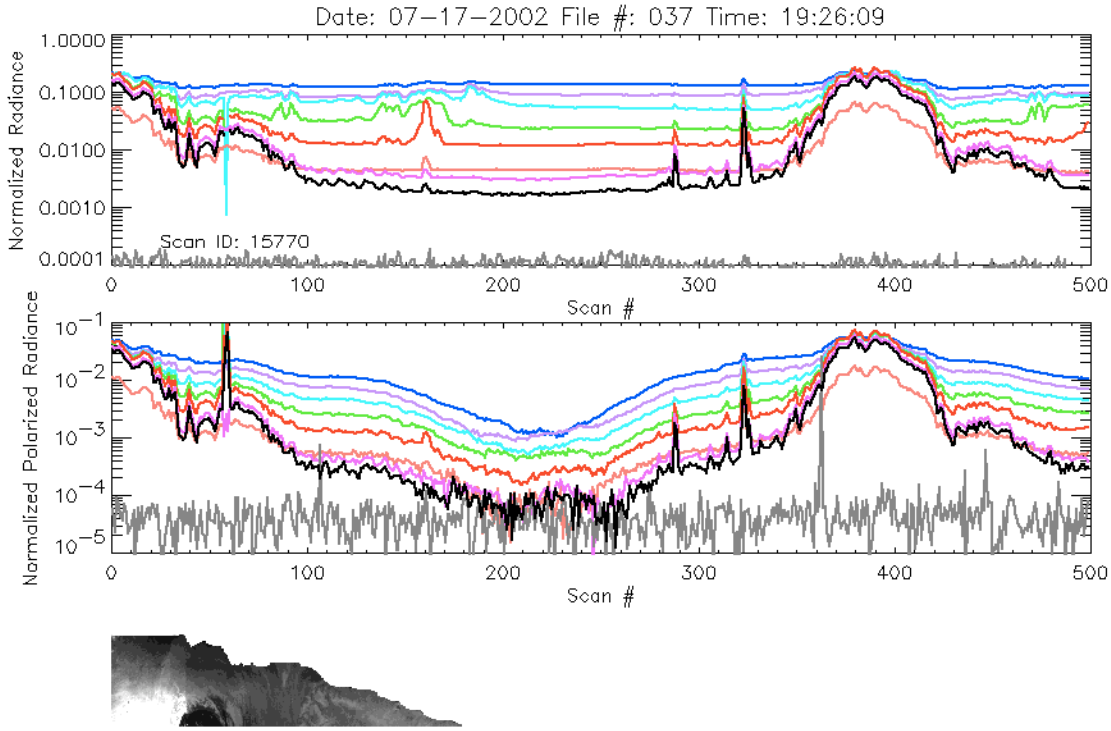

Date: 07-17-2002 File #: 032 Time: 18:52:57
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 13403
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #

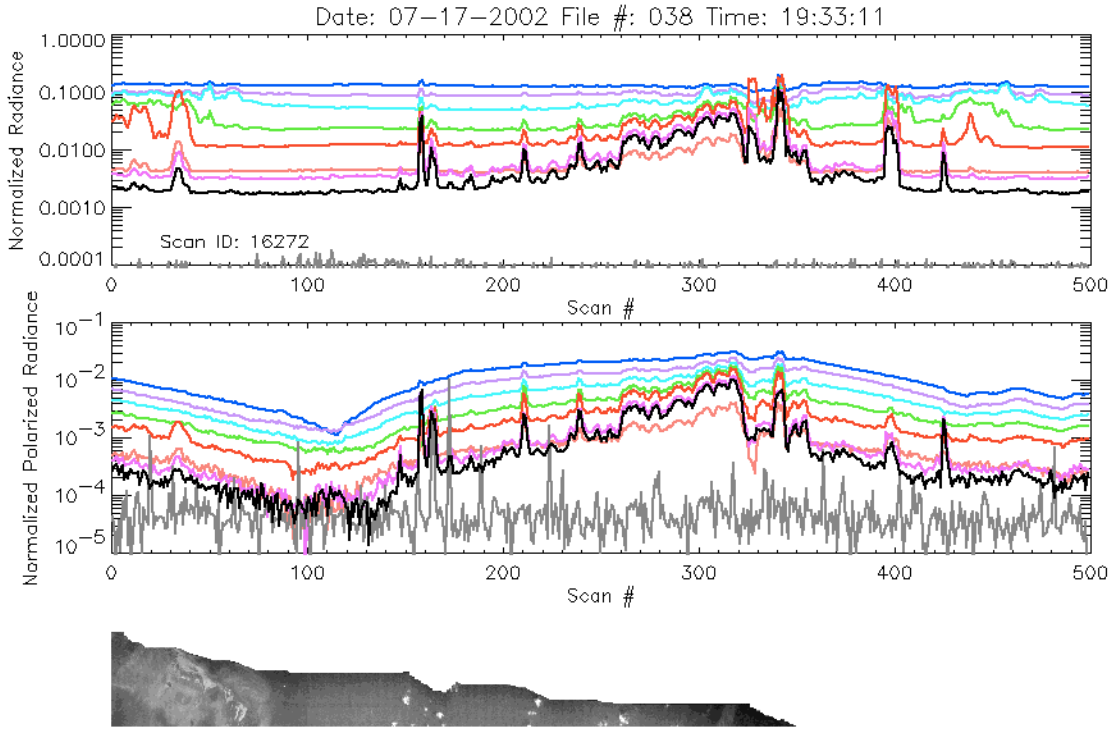

Date: 07-17-2002 File #: 033 Time: 19:00:00
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 13905
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #

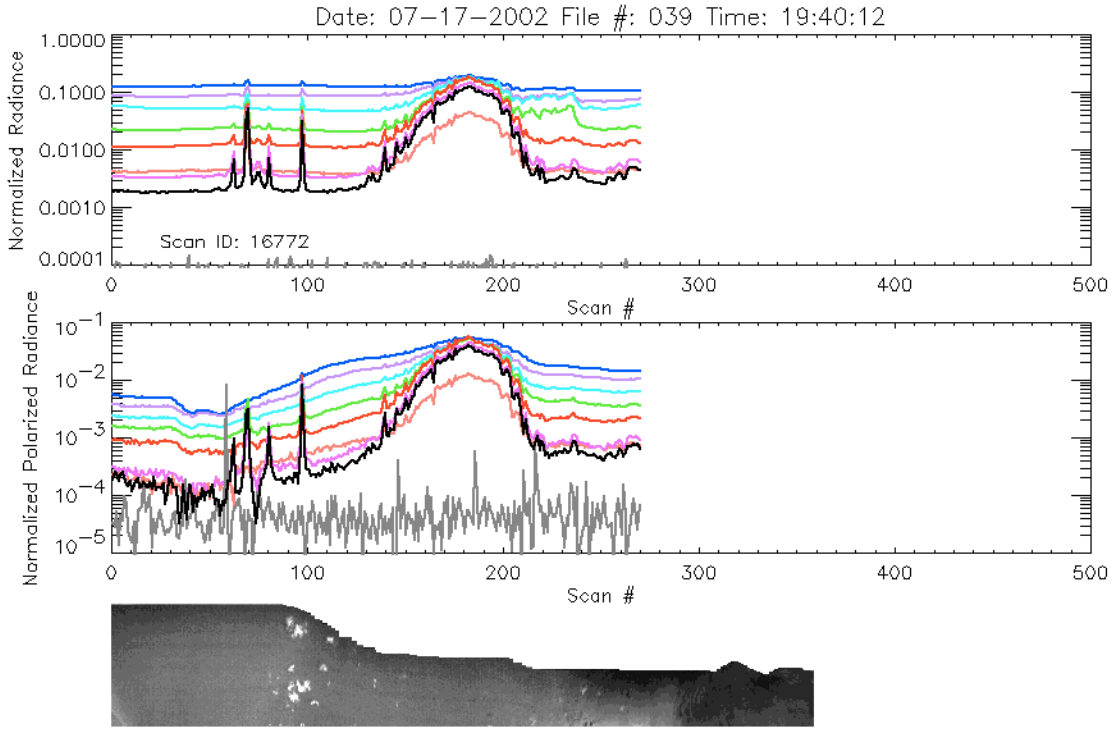

Date: 07-17-2002 File #: 034 Time: 19:07:00
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 14405
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #

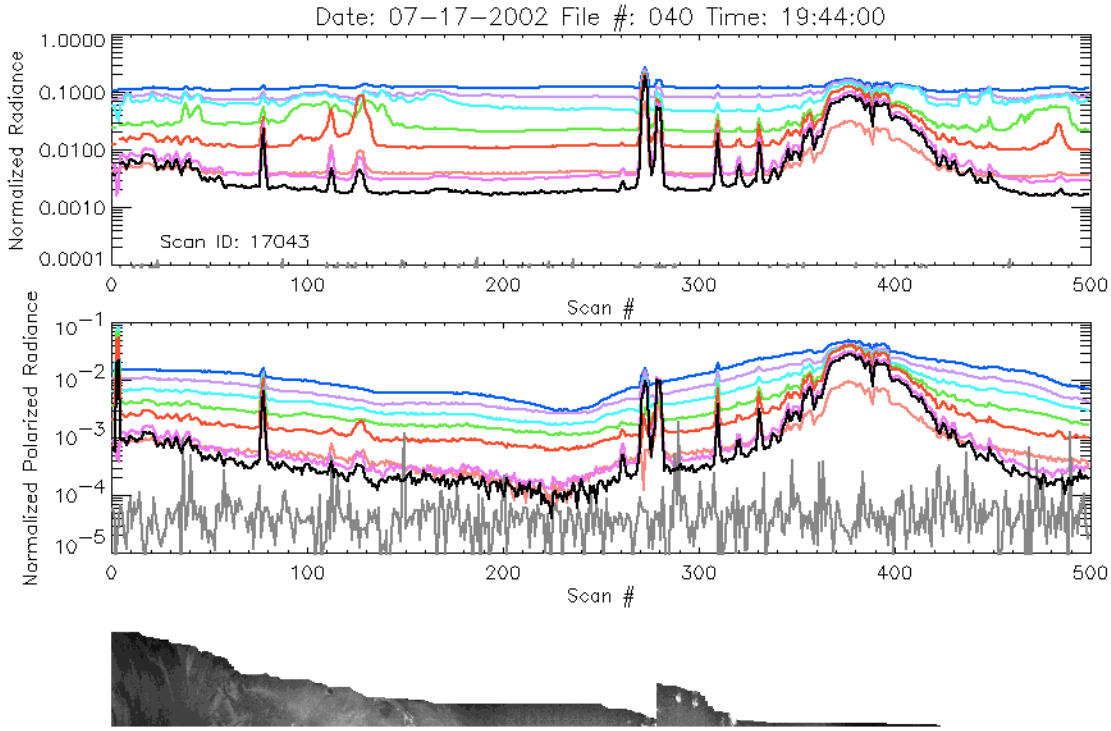

Date: 07-17-2002 File #: 035 Time: 19:14:01
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 14905
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #

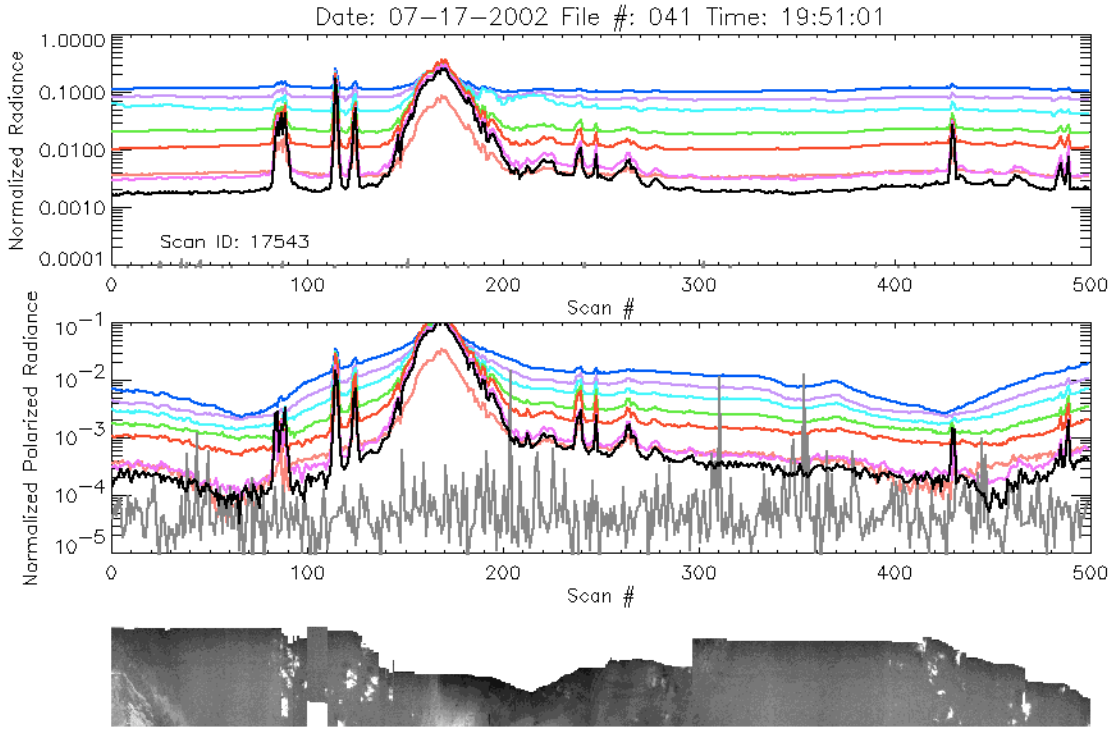

Date: 07-17-2002 File #: 036 Time: 19:19:08
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 15270
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #

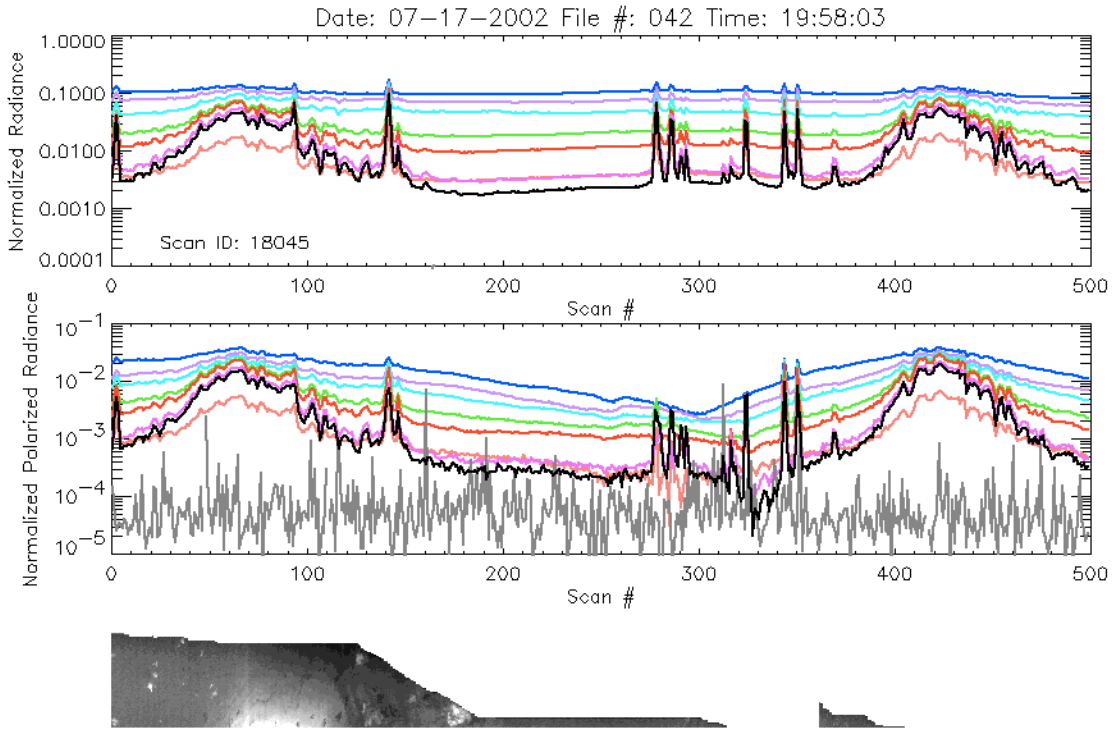

Date: 07-17-2002 File #: 037 Time: 19:26:09
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 15770
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #

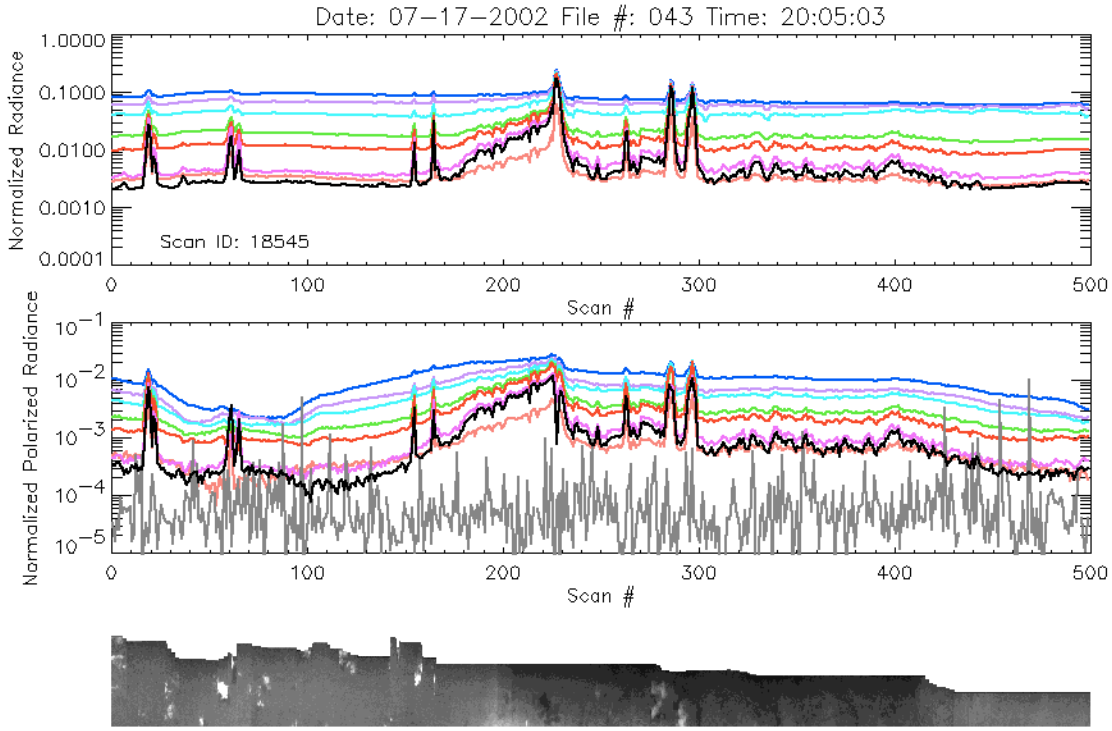

Date: 07-17-2002 File #: 038 Time: 19:33:11
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 16272
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #

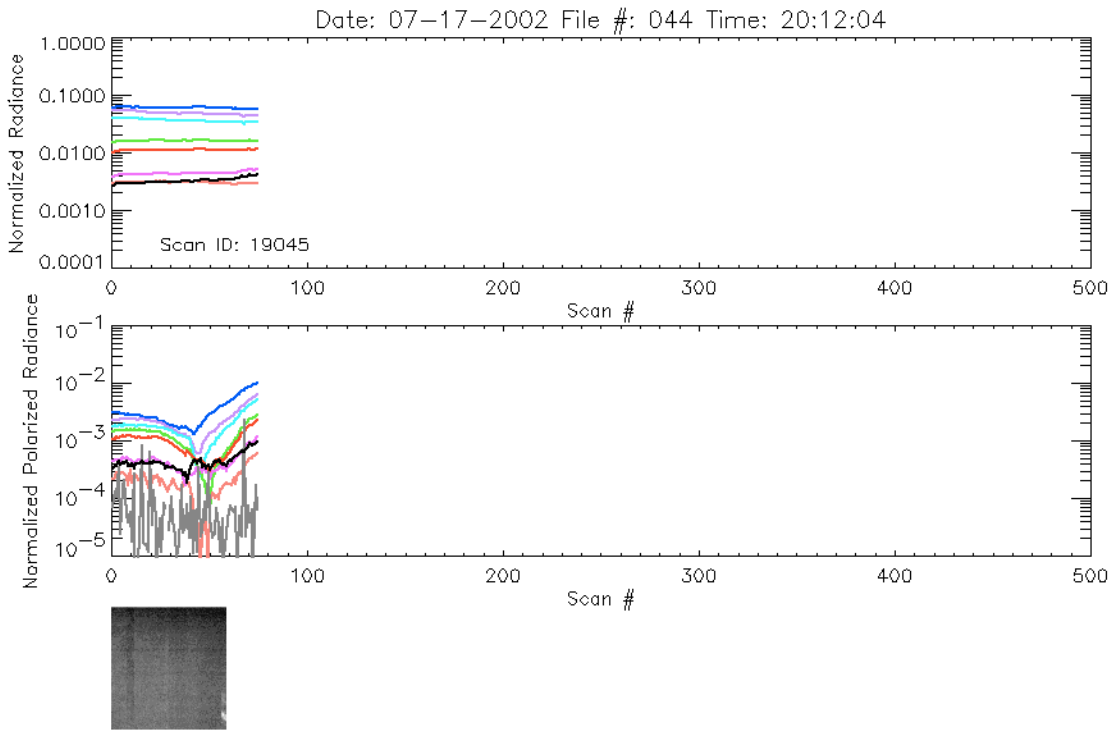

Date: 07-17-2002 File #: 039 Time: 19:40:12
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 16772
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #

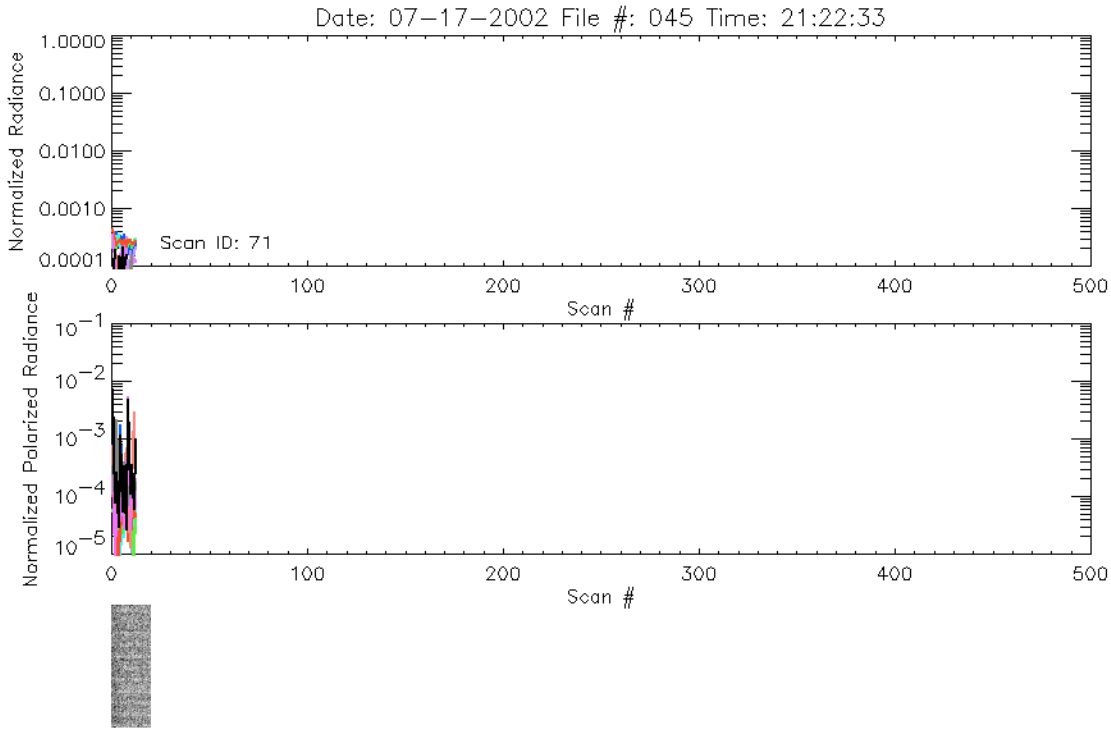

Date: 07-17-2002 File #: 040 Time: 19:44:00
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 17043
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #

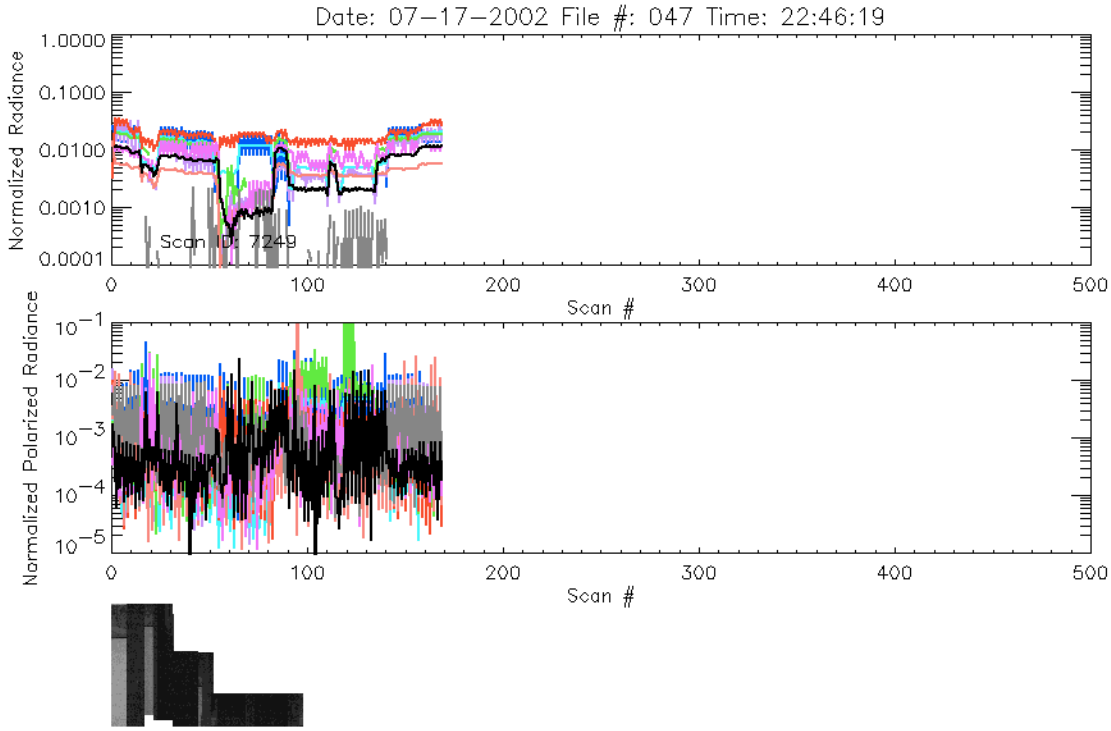

Date: 07-17-2002 File #: 041 Time: 19:51:01
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 17543
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #


Date: 07−17−2002 File #: 042 Time: 19:58:03
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 18045
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #


Date: 07−17−2002 File #: 043 Time: 20:05:03
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 18545
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
Scan #


Date: 07-17-2002 File #: 044 Time: 20:12:04
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 19045
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
0
100
200
300
400
500
Scan #


Date: 07-17-2002 File #: 045 Time: 21:22:33
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 71
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
0
100
200
300
400
500
Scan #


Date: 07-17-2002 File #: 047 Time: 22:46:19
Normalized Radiance
1.0000
0.1000
0.0100
0.0010
0.0001
Scan ID: 7249
0
100
200
300
400
500
Scan #
Normalized Polarized Radiance
10^{-1}
10^{-2}
10^{-3}
10^{-4}
10^{-5}
0
100
200
300
400
500
Scan #