

**DSV (#0428):** Total of **615** orbits.  $\lambda_o = 270^\circ$ ,  $\lambda_g - \lambda_o = 293.7^\circ$ ,  $\beta_g = 14.8^\circ$ ,  $\Delta r = 3^\circ$ ,  $\Delta \lambda_o = 30^\circ$ . JPV (#0500) and EPV (#5013) should be included into this DSV activity. The activity curve looks like a plane convex lens and the maximum is unclear.

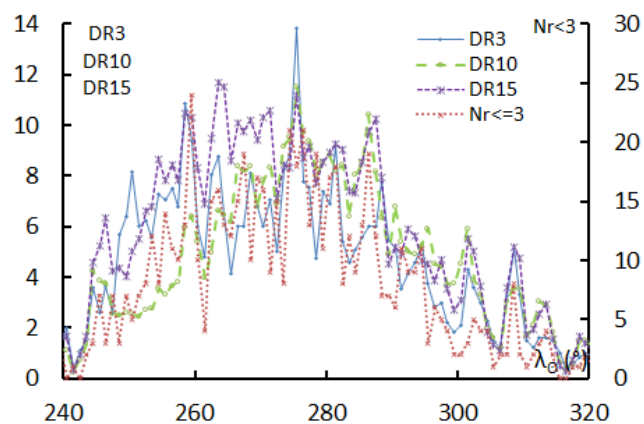
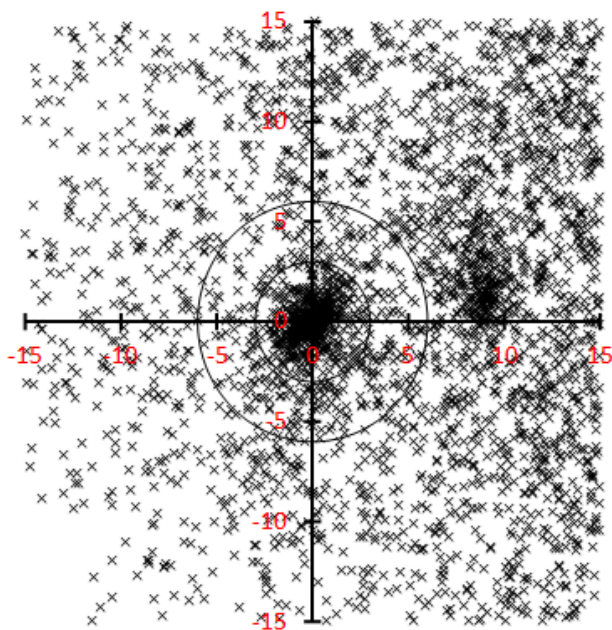


Table 1 – Number per year.

| Year | N  | Year | N  |
|------|----|------|----|
| 2007 | 33 | 2013 | 49 |
| 2008 | 59 | 2014 | 46 |
| 2009 | 50 | 2015 | 48 |
| 2010 | 55 | 2016 | 44 |
| 2011 | 78 | 2017 | 63 |
| 2012 | 39 | 2018 | 51 |

Table 2 – Activity profiles.

|       | $\lambda_o$ | Max  |
|-------|-------------|------|
| Nr<=3 | 259.5       | 24   |
| DR3   | 275.5       | 13.8 |
| DR10  | 275.5       | 11.5 |
| DR15  | 263.5       | 11.7 |

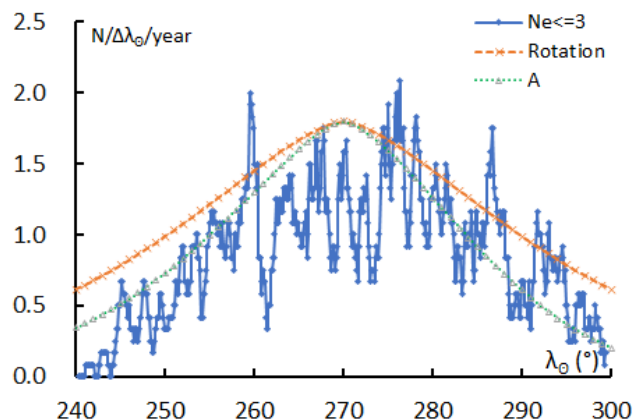


Table 3 – Evolution of the orbital parameters during the activity period.

| $\lambda_o$ | $\lambda_g - \lambda_o$ | $\beta_g$ | $\alpha_g$ | $\delta_g$ | $\nu_g$ | $e$   | $q$   | $i$   | $\omega$ | $\Omega$ | $\lambda_{\Pi}$ | $\beta_{\Pi}$ | $a$   |
|-------------|-------------------------|-----------|------------|------------|---------|-------|-------|-------|----------|----------|-----------------|---------------|-------|
| 240         | 297.3                   | 11.5      | 182.2      | 11.6       | 66.1    | 0.998 | 0.511 | 154.3 | 91.9     | 240.0    | 147.9           | 25.7          | 247.2 |
| 241         | 297.2                   | 11.6      | 183.0      | 11.4       | 66.1    | 0.996 | 0.514 | 154.1 | 92.2     | 241.0    | 148.5           | 25.9          | 137.9 |
| 242         | 297.1                   | 11.8      | 183.9      | 11.1       | 66.1    | 0.995 | 0.517 | 153.9 | 92.5     | 242.0    | 149.2           | 26.1          | 96.10 |
| 243         | 296.9                   | 11.9      | 184.7      | 10.9       | 66.1    | 0.993 | 0.520 | 153.7 | 92.9     | 243.0    | 149.8           | 26.2          | 74.01 |
| 244         | 296.8                   | 12.0      | 185.6      | 10.7       | 66.1    | 0.991 | 0.523 | 153.5 | 93.2     | 244.0    | 150.4           | 26.4          | 60.35 |
| 245         | 296.7                   | 12.1      | 186.4      | 10.4       | 66.1    | 0.990 | 0.526 | 153.4 | 93.6     | 245.0    | 151.0           | 26.6          | 51.08 |
| 246         | 296.6                   | 12.2      | 187.2      | 10.2       | 66.1    | 0.988 | 0.530 | 153.2 | 93.9     | 246.0    | 151.6           | 26.7          | 44.37 |
| 247         | 296.4                   | 12.3      | 188.1      | 9.9        | 66.1    | 0.986 | 0.533 | 153.0 | 94.2     | 247.0    | 152.3           | 26.9          | 39.30 |
| 248         | 296.3                   | 12.4      | 188.9      | 9.7        | 66.1    | 0.985 | 0.536 | 152.8 | 94.6     | 248.0    | 152.9           | 27.1          | 35.33 |
| 249         | 296.2                   | 12.5      | 189.7      | 9.4        | 66.1    | 0.983 | 0.539 | 152.7 | 94.9     | 249.0    | 153.5           | 27.2          | 32.14 |
| 250         | 296.0                   | 12.6      | 190.6      | 9.2        | 66.1    | 0.982 | 0.542 | 152.5 | 95.3     | 250.0    | 154.1           | 27.4          | 29.52 |
| 251         | 295.9                   | 12.7      | 191.4      | 8.9        | 66.1    | 0.980 | 0.546 | 152.3 | 95.6     | 251.0    | 154.7           | 27.5          | 27.33 |
| 252         | 295.8                   | 12.8      | 192.3      | 8.7        | 66.1    | 0.978 | 0.549 | 152.2 | 96.0     | 252.0    | 155.3           | 27.7          | 25.48 |
| 253         | 295.7                   | 13.0      | 193.1      | 8.5        | 66.1    | 0.977 | 0.552 | 152.0 | 96.3     | 253.0    | 155.8           | 27.8          | 23.88 |
| 254         | 295.5                   | 13.1      | 193.9      | 8.2        | 66.1    | 0.975 | 0.555 | 151.8 | 96.7     | 254.0    | 156.4           | 28.0          | 22.51 |
| 255         | 295.4                   | 13.2      | 194.7      | 8.0        | 66.1    | 0.974 | 0.559 | 151.7 | 97.0     | 255.0    | 157.0           | 28.1          | 21.30 |
| 256         | 295.3                   | 13.3      | 195.6      | 7.8        | 66.1    | 0.972 | 0.562 | 151.5 | 97.4     | 256.0    | 157.6           | 28.3          | 20.24 |
| 257         | 295.2                   | 13.4      | 196.4      | 7.5        | 66.1    | 0.971 | 0.565 | 151.3 | 97.8     | 257.0    | 158.2           | 28.4          | 19.30 |
| 258         | 295.0                   | 13.5      | 197.2      | 7.3        | 66.1    | 0.969 | 0.569 | 151.2 | 98.1     | 258.0    | 158.8           | 28.5          | 18.45 |
| 259         | 294.9                   | 13.6      | 198.1      | 7.1        | 66.1    | 0.968 | 0.572 | 151.0 | 98.5     | 259.0    | 159.3           | 28.7          | 17.70 |
| 260         | 294.8                   | 13.7      | 198.9      | 6.8        | 66.1    | 0.966 | 0.575 | 150.8 | 98.9     | 260.0    | 159.9           | 28.8          | 17.01 |

Table 3 – Continued, evolution of the orbital parameters during the activity period.

| $\lambda_0$ | $\lambda_g - \lambda_0$ | $\beta_g$ | $\alpha_g$ | $\delta_g$ | $v_g$ | $e$   | $q$   | $i$   | $\omega$ | $\Omega$ | $\lambda_{II}$ | $\beta_{II}$ | $a$   |
|-------------|-------------------------|-----------|------------|------------|-------|-------|-------|-------|----------|----------|----------------|--------------|-------|
| 261         | 294.6                   | 13.8      | 199.7      | 6.6        | 66.1  | 0.965 | 0.579 | 150.7 | 99.2     | 261.0    | 160.5          | 28.9         | 16.40 |
| 262         | 294.5                   | 13.9      | 200.6      | 6.4        | 66.1  | 0.963 | 0.582 | 150.5 | 99.6     | 262.0    | 161.0          | 29.0         | 15.83 |
| 263         | 294.4                   | 14.0      | 201.4      | 6.2        | 66.1  | 0.962 | 0.585 | 150.3 | 100.0    | 263.0    | 161.6          | 29.2         | 15.32 |
| 264         | 294.3                   | 14.1      | 202.2      | 5.9        | 66.1  | 0.960 | 0.589 | 150.2 | 100.3    | 264.0    | 162.1          | 29.3         | 14.85 |
| 265         | 294.1                   | 14.3      | 203.0      | 5.7        | 66.1  | 0.959 | 0.592 | 150.0 | 100.7    | 265.0    | 162.7          | 29.4         | 14.42 |
| 266         | 294.0                   | 14.4      | 203.9      | 5.5        | 66.1  | 0.958 | 0.595 | 149.9 | 101.1    | 266.0    | 163.2          | 29.5         | 14.02 |
| 267         | 293.9                   | 14.5      | 204.7      | 5.3        | 66.1  | 0.956 | 0.599 | 149.7 | 101.5    | 267.0    | 163.8          | 29.6         | 13.65 |
| 268         | 293.7                   | 14.6      | 205.5      | 5.1        | 66.1  | 0.955 | 0.602 | 149.6 | 101.9    | 268.0    | 164.3          | 29.7         | 13.31 |
| 269         | 293.6                   | 14.7      | 206.3      | 4.9        | 66.1  | 0.953 | 0.606 | 149.4 | 102.3    | 269.0    | 164.8          | 29.8         | 12.99 |
| 270         | 293.5                   | 14.8      | 207.2      | 4.6        | 66.1  | 0.952 | 0.609 | 149.2 | 102.6    | 270.0    | 165.4          | 29.9         | 12.70 |
| 271         | 293.4                   | 14.9      | 208.0      | 4.4        | 66.1  | 0.951 | 0.612 | 149.1 | 103.0    | 271.0    | 165.9          | 30.0         | 12.43 |
| 272         | 293.2                   | 15.0      | 208.8      | 4.2        | 66.1  | 0.949 | 0.616 | 148.9 | 103.4    | 272.0    | 166.4          | 30.1         | 12.17 |
| 273         | 293.1                   | 15.1      | 209.6      | 4.0        | 66.1  | 0.948 | 0.619 | 148.8 | 103.8    | 273.0    | 166.9          | 30.2         | 11.94 |
| 274         | 293.0                   | 15.2      | 210.5      | 3.8        | 66.1  | 0.947 | 0.623 | 148.6 | 104.2    | 274.0    | 167.5          | 30.3         | 11.72 |
| 275         | 292.8                   | 15.3      | 211.3      | 3.6        | 66.1  | 0.946 | 0.626 | 148.5 | 104.6    | 275.0    | 168.0          | 30.4         | 11.51 |
| 276         | 292.7                   | 15.4      | 212.1      | 3.4        | 66.1  | 0.944 | 0.630 | 148.3 | 105.0    | 276.0    | 168.5          | 30.5         | 11.32 |
| 277         | 292.6                   | 15.5      | 212.9      | 3.2        | 66.1  | 0.943 | 0.633 | 148.2 | 105.4    | 277.0    | 169.0          | 30.6         | 11.14 |
| 278         | 292.4                   | 15.6      | 213.8      | 3.1        | 66.1  | 0.942 | 0.637 | 148.0 | 105.8    | 278.0    | 169.5          | 30.6         | 10.97 |
| 279         | 292.3                   | 15.8      | 214.6      | 2.9        | 66.1  | 0.941 | 0.640 | 147.9 | 106.2    | 279.0    | 170.0          | 30.7         | 10.81 |
| 280         | 292.2                   | 15.9      | 215.4      | 2.7        | 66.1  | 0.940 | 0.644 | 147.7 | 106.7    | 280.0    | 170.5          | 30.8         | 10.66 |
| 281         | 292.1                   | 16.0      | 216.2      | 2.5        | 66.1  | 0.939 | 0.647 | 147.6 | 107.1    | 281.0    | 171.0          | 30.8         | 10.52 |
| 282         | 291.9                   | 16.1      | 217.1      | 2.3        | 66.1  | 0.937 | 0.650 | 147.4 | 107.5    | 282.0    | 171.5          | 30.9         | 10.39 |
| 283         | 291.8                   | 16.2      | 217.9      | 2.2        | 66.1  | 0.936 | 0.654 | 147.3 | 107.9    | 283.0    | 172.0          | 31.0         | 10.27 |
| 284         | 291.7                   | 16.3      | 218.7      | 2.0        | 66.1  | 0.935 | 0.657 | 147.1 | 108.3    | 284.0    | 172.5          | 31.0         | 10.15 |
| 285         | 291.5                   | 16.4      | 219.5      | 1.8        | 66.1  | 0.934 | 0.661 | 147.0 | 108.7    | 285.0    | 173.0          | 31.1         | 10.05 |
| 286         | 291.4                   | 16.5      | 220.4      | 1.7        | 66.1  | 0.933 | 0.665 | 146.8 | 109.2    | 286.0    | 173.4          | 31.1         | 9.95  |
| 287         | 291.3                   | 16.6      | 221.2      | 1.5        | 66.1  | 0.932 | 0.668 | 146.7 | 109.6    | 287.0    | 173.9          | 31.2         | 9.85  |
| 288         | 291.1                   | 16.7      | 222.0      | 1.3        | 66.1  | 0.931 | 0.672 | 146.5 | 110.0    | 288.0    | 174.4          | 31.2         | 9.77  |
| 289         | 291.0                   | 16.8      | 222.8      | 1.2        | 66.1  | 0.930 | 0.675 | 146.4 | 110.5    | 289.0    | 174.9          | 31.2         | 9.69  |
| 290         | 290.9                   | 16.9      | 223.7      | 1.0        | 66.1  | 0.929 | 0.679 | 146.3 | 110.9    | 290.0    | 175.3          | 31.3         | 9.61  |
| 291         | 290.7                   | 17.0      | 224.5      | 0.9        | 66.1  | 0.928 | 0.682 | 146.1 | 111.3    | 291.0    | 175.8          | 31.3         | 9.54  |
| 292         | 290.6                   | 17.1      | 225.3      | 0.7        | 66.1  | 0.928 | 0.686 | 146.0 | 111.8    | 292.0    | 176.3          | 31.3         | 9.47  |
| 293         | 290.5                   | 17.2      | 226.1      | 0.6        | 66.1  | 0.927 | 0.689 | 145.8 | 112.2    | 293.0    | 176.7          | 31.3         | 9.41  |
| 294         | 290.3                   | 17.3      | 226.9      | 0.5        | 66.1  | 0.926 | 0.693 | 145.7 | 112.6    | 294.0    | 177.2          | 31.3         | 9.36  |
| 295         | 290.2                   | 17.5      | 227.8      | 0.3        | 66.1  | 0.925 | 0.696 | 145.5 | 113.1    | 295.0    | 177.7          | 31.4         | 9.31  |
| 296         | 290.1                   | 17.6      | 228.6      | 0.2        | 66.1  | 0.924 | 0.700 | 145.4 | 113.5    | 296.0    | 178.1          | 31.4         | 9.26  |
| 297         | 289.9                   | 17.7      | 229.4      | 0.1        | 66.1  | 0.924 | 0.703 | 145.3 | 114.0    | 297.0    | 178.6          | 31.4         | 9.22  |
| 298         | 289.8                   | 17.8      | 230.2      | 0.0        | 66.1  | 0.923 | 0.707 | 145.1 | 114.4    | 298.0    | 179.0          | 31.4         | 9.18  |
| 299         | 289.7                   | 17.9      | 231.1      | -0.2       | 66.1  | 0.922 | 0.710 | 145.0 | 114.9    | 299.0    | 179.5          | 31.4         | 9.15  |
| 300         | 289.5                   | 18.0      | 231.9      | -0.3       | 66.1  | 0.922 | 0.714 | 144.9 | 115.3    | 300.0    | 179.9          | 31.4         | 9.12  |
| 301         | 289.4                   | 18.1      | 232.7      | -0.4       | 66.1  | 0.921 | 0.717 | 144.7 | 115.8    | 301.0    | 180.4          | 31.3         | 9.10  |
| 302         | 289.3                   | 18.2      | 233.5      | -0.5       | 66.1  | 0.921 | 0.721 | 144.6 | 116.2    | 302.0    | 180.8          | 31.3         | 9.07  |
| 303         | 289.1                   | 18.3      | 234.4      | -0.6       | 66.1  | 0.920 | 0.725 | 144.4 | 116.7    | 303.0    | 181.3          | 31.3         | 9.06  |
| 304         | 289.0                   | 18.4      | 235.2      | -0.7       | 66.1  | 0.919 | 0.728 | 144.3 | 117.2    | 304.0    | 181.7          | 31.3         | 9.04  |
| 305         | 288.9                   | 18.5      | 236.0      | -0.8       | 66.1  | 0.919 | 0.732 | 144.2 | 117.6    | 305.0    | 182.2          | 31.2         | 9.03  |