

Total Pe/Pi ratios

| wv_lo | wv_hi | pe/pi 0  | pe/pi 02  | pe/pi N2  |
|-------|-------|----------|-----------|-----------|
| 0.5   | 1.0   | -        | 332.852   | 554.244   |
| 1.0   | 1.5   | 212.745  | 186.228   | 312.075   |
| 1.5   | 2.0   | 149.325  | 130.619   | 218.995   |
| 2.0   | 2.5   | 115.606  | 101.114   | 168.339   |
| 2.5   | 3.0   | 94.5062  | 82.6445   | 136.931   |
| 3.0   | 4.0   | 75.5716  | 66.0796   | 108.693   |
| 4.0   | 5.0   | 58.7628  | 51.3805   | 83.1988   |
| 5.0   | 6.0   | 48.3351  | 42.2614   | 67.3960   |
| 6.0   | 8.0   | 38.9084  | 34.0141   | 53.2003   |
| 8.0   | 10.0  | 30.1897  | 26.3751   | 40.7456   |
| 10.0  | 14.0  | 23.1636  | 20.1905   | 30.7945   |
| 14.0  | 18.0  | 17.2905  | 14.9656   | 22.5428   |
| 18.0  | 32.0  | 6.81216  | 5.97049   | 21.2291   |
| 32.0  | 70.0  | 4.89734  | 4.14603   | 7.60902   |
| 70.0  | 155.0 | 2.12599  | 1.55417   | 2.74522   |
| 155.0 | 224.0 | 0.967781 | 0.499687  | 0.803526  |
| 224.0 | 290.0 | 0.604944 | 0.233743  | 0.432018  |
| 290.0 | 320.0 | 0.418734 | 0.107612  | 0.223247  |
| 320.0 | 540.0 | 0.136301 | 0.0327234 | 0.0329135 |
| 540.0 | 650.0 | 0.000000 | 0.000000  | 0.000000  |

Pe/Pi ratios of States

0

#1 solar zenith angle = 0 degree

| wv_lo | wv_hi | pe/pi total | pe/pi <sup>4S</sup> | pe/pi <sup>2D</sup> | pe/pi <sup>2P</sup> |
|-------|-------|-------------|---------------------|---------------------|---------------------|
| 0.5   | 1.0   | -           | -                   | -                   | -                   |
| 1.0   | 1.5   | 212.745     | 84.6090             | 84.5374             | 43.5981             |
| 1.5   | 2.0   | 149.325     | 59.4028             | 59.3298             | 30.5927             |
| 2.0   | 2.5   | 115.606     | 45.9965             | 45.9292             | 23.6802             |
| 2.5   | 3.0   | 94.5062     | 37.6110             | 37.5423             | 19.3529             |
| 3.0   | 4.0   | 75.5716     | 30.0864             | 30.0159             | 15.4694             |
| 4.0   | 5.0   | 58.7628     | 23.4069             | 23.3342             | 12.0216             |
| 5.0   | 6.0   | 48.3351     | 19.2637             | 19.1889             | 9.88243             |
| 6.0   | 8.0   | 38.9084     | 15.5185             | 15.4415             | 7.94847             |
| 8.0   | 10.0  | 30.1897     | 12.0543             | 11.9755             | 6.15990             |
| 10.0  | 14.0  | 23.1636     | 9.26226             | 9.18264             | 4.71871             |
| 14.0  | 18.0  | 17.2905     | 6.92785             | 6.84839             | 3.51430             |
| 18.0  | 32.0  | 6.81216     | 2.72380             | 2.70051             | 1.38785             |
| 32.0  | 70.0  | 4.89734     | 1.97205             | 1.93557             | 0.989720            |
| 70.0  | 155.0 | 2.12599     | 0.874783            | 0.832345            | 0.418859            |
| 155.0 | 224.0 | 0.967781    | 0.424147            | 0.367468            | 0.176165            |
| 224.0 | 290.0 | 0.604944    | 0.279613            | 0.223177            | 0.102153            |
| 290.0 | 320.0 | 0.418734    | 0.207135            | 0.149243            | 0.0623553           |
| 320.0 | 540.0 | 0.136301    | 0.0898003           | 0.0364637           | 0.0100373           |
| 540.0 | 650.0 | 0.000000    | 0.000000            | 0.000000            | 0.000000            |

#2 solar zenith angle = 60 degrees

| wv_lo | wv_hi | pe/pi total | pe/pi $^4S$ | pe/pi $^2D$ | pe/pi $^2P$ |
|-------|-------|-------------|-------------|-------------|-------------|
| 0.5   | 1.0   | 379.707     | 150.971     | 150.900     | 77.8355     |
| 1.0   | 1.5   | 212.758     | 84.6145     | 84.5429     | 43.6010     |
| 1.5   | 2.0   | 149.340     | 59.4085     | 59.3355     | 30.5956     |
| 2.0   | 2.5   | 115.300     | 45.8697     | 45.8101     | 23.6204     |
| 2.5   | 3.0   | 94.2142     | 37.4898     | 37.4287     | 19.2958     |
| 3.0   | 4.0   | 75.3014     | 29.9740     | 29.9107     | 15.4166     |
| 4.0   | 5.0   | 58.5297     | 23.3096     | 23.2438     | 11.9764     |
| 5.0   | 6.0   | 48.1642     | 19.1915     | 19.1229     | 9.84972     |
| 6.0   | 8.0   | 38.8004     | 15.4713     | 15.4004     | 7.92865     |
| 8.0   | 10.0  | 30.0982     | 12.0135     | 11.9411     | 6.14357     |
| 10.0  | 14.0  | 23.0514     | 9.21311     | 9.14008     | 4.69822     |
| 14.0  | 18.0  | 17.1710     | 6.87641     | 6.80264     | 3.49193     |
| 18.0  | 32.0  | 6.63657     | 2.65205     | 2.63160     | 1.35291     |
| 32.0  | 70.0  | 4.84971     | 1.95188     | 1.91720     | 0.980636    |
| 70.0  | 155.0 | 2.09888     | 0.863165    | 0.821948    | 0.413768    |
| 155.0 | 224.0 | 0.955311    | 0.418585    | 0.362777    | 0.173949    |
| 224.0 | 290.0 | 0.600372    | 0.277380    | 0.221540    | 0.101453    |
| 290.0 | 320.0 | 0.417492    | 0.206425    | 0.148917    | 0.0621500   |
| 320.0 | 540.0 | 0.135865    | 0.0897205   | 0.0362257   | 0.00991885  |
| 540.0 | 650.0 | 0.000000    | 0.000000    | 0.000000    | 0.000000    |

#3 solar zenith angle = 85 degrees

| wv_lo | wv_hi | pe/pi total | pe/pi $^4S$ | pe/pi $^2D$ | pe/pi $^2P$ |
|-------|-------|-------------|-------------|-------------|-------------|
| 0.5   | 1.0   | 379.806     | 151.011     | 150.939     | 77.8560     |
| 1.0   | 1.5   | 212.837     | 84.6458     | 84.5741     | 43.6171     |
| 1.5   | 2.0   | 148.984     | 59.2602     | 59.1976     | 30.5267     |
| 2.0   | 2.5   | 115.606     | 45.9948     | 45.9303     | 23.6813     |
| 2.5   | 3.0   | 94.5855     | 37.6411     | 37.5745     | 19.3700     |
| 3.0   | 4.0   | 75.7708     | 30.1645     | 30.0954     | 15.5109     |
| 4.0   | 5.0   | 59.0947     | 23.5376     | 23.4666     | 12.0906     |
| 5.0   | 6.0   | 48.6902     | 19.4020     | 19.3311     | 9.95704     |
| 6.0   | 8.0   | 39.2278     | 15.6407     | 15.5703     | 8.01681     |
| 8.0   | 10.0  | 30.4766     | 12.1624     | 12.0919     | 6.22221     |
| 10.0  | 14.0  | 23.4557     | 9.37295     | 9.30089     | 4.78182     |
| 14.0  | 18.0  | 17.5774     | 7.03874     | 6.96362     | 3.57508     |
| 18.0  | 32.0  | 7.26906     | 2.90505     | 2.88216     | 1.48186     |
| 32.0  | 70.0  | 5.02694     | 2.02293     | 1.98729     | 1.01671     |
| 70.0  | 155.0 | 2.25345     | 0.926754    | 0.882349    | 0.444342    |
| 155.0 | 224.0 | 1.05975     | 0.463427    | 0.402763    | 0.193564    |
| 224.0 | 290.0 | 0.612419    | 0.280654    | 0.227109    | 0.104656    |
| 290.0 | 320.0 | 0.301511    | 0.146979    | 0.108834    | 0.0456978   |
| 320.0 | 540.0 | 0.0888672   | 0.0581579   | 0.0240339   | 0.00667546  |
| 540.0 | 650.0 | 0.000000    | 0.000000    | 0.000000    | 0.000000    |

D.I -Electron Impact Ionisation + Dissociation  
 Dissoc. -Electron Impact Ionisation + Dissociation

02

$O_2^+$  States:  $X^2\pi_g$  (12.10 eV),  $a^4\pi_u$  (16.10 eV),  $A^2\pi_u$  (16.90 eV),  $b^4\Sigma_g$  (18.20 eV)

D.I:  $B^2\Sigma_g$  (20 eV),  $c^4\Sigma_u, ^2\pi(III)$  (23 eV), 37 eV

Dissoc. States : B(8.44 eV), 9.9 (9.9eV), Ryds (13.50 eV)

#1 solar zenith angle = 0 degrees

| wv_lo | wv_hi | pe/pi total | pe/pi $O_2^+$ | pe/pi D.I  | pe/pi Dissoc. |
|-------|-------|-------------|---------------|------------|---------------|
| 0.5   | 1.0   | 332.852     | 216.571       | 116.281    | 278.995       |
| 1.0   | 1.5   | 186.228     | 121.229       | 64.9981    | 155.079       |
| 1.5   | 2.0   | 130.619     | 85.0681       | 45.5514    | 108.572       |
| 2.0   | 2.5   | 101.114     | 65.8767       | 35.2370    | 83.9653       |
| 2.5   | 3.0   | 82.6445     | 53.8655       | 28.7790    | 68.6837       |
| 3.0   | 4.0   | 66.0796     | 43.0923       | 22.9873    | 55.0375       |
| 4.0   | 5.0   | 51.3805     | 33.5325       | 17.8480    | 42.9830       |
| 5.0   | 6.0   | 42.2614     | 27.6017       | 14.6597    | 35.5445       |
| 6.0   | 8.0   | 34.0141     | 22.2375       | 11.7766    | 28.8510       |
| 8.0   | 10.0  | 26.3751     | 17.2676       | 9.10754    | 22.6744       |
| 10.0  | 14.0  | 20.1905     | 13.2424       | 6.94812    | 17.7001       |
| 14.0  | 18.0  | 14.9656     | 9.83942       | 5.12621    | 13.5173       |
| 18.0  | 32.0  | 5.97049     | 3.91681       | 2.05368    | 5.24996       |
| 32.0  | 70.0  | 4.14603     | 2.74089       | 1.40514    | 4.01997       |
| 70.0  | 155.0 | 1.55417     | 1.05146       | 0.502710   | 2.00029       |
| 155.0 | 224.0 | 0.499687    | 0.360793      | 0.138894   | 1.19664       |
| 224.0 | 290.0 | 0.233743    | 0.181843      | 0.0518998  | 0.901872      |
| 290.0 | 320.0 | 0.107612    | 0.0926785     | 0.0149338  | 0.737281      |
| 320.0 | 540.0 | 0.0327234   | 0.0313866     | 0.00133685 | 0.896351      |
| 540.0 | 650.0 | 0.000000    | 0.000000      | 0.000000   | 0.0134614     |

#2 solar zenith angle = 60 degrees

| wv_lo | wv_hi | pe/pi total | pe/pi $O_2^+$ | pe/pi D.I  | pe/pi Dissoc. |
|-------|-------|-------------|---------------|------------|---------------|
| 0.5   | 1.0   | 332.867     | 216.581       | 116.286    | 279.008       |
| 1.0   | 1.5   | 186.239     | 121.237       | 65.0023    | 155.089       |
| 1.5   | 2.0   | 130.632     | 85.0763       | 45.5557    | 108.582       |
| 2.0   | 2.5   | 100.878     | 65.7196       | 35.1584    | 83.6842       |
| 2.5   | 3.0   | 82.4198     | 53.7157       | 28.7042    | 68.4143       |
| 3.0   | 4.0   | 65.8722     | 42.9539       | 22.9183    | 54.7870       |
| 4.0   | 5.0   | 51.2046     | 33.4147       | 17.7899    | 42.7629       |
| 5.0   | 6.0   | 42.1383     | 27.5185       | 14.6198    | 35.3763       |
| 6.0   | 8.0   | 33.9472     | 22.1909       | 11.7563    | 28.7328       |
| 8.0   | 10.0  | 26.3242     | 17.2313       | 9.09287    | 22.5684       |
| 10.0  | 14.0  | 20.1219     | 13.1945       | 6.92741    | 17.5759       |
| 14.0  | 18.0  | 14.8862     | 9.78499       | 5.10122    | 13.3916       |
| 18.0  | 32.0  | 5.82665     | 3.82147       | 2.00518    | 5.09903       |
| 32.0  | 70.0  | 4.11217     | 2.71788       | 1.39429    | 3.97173       |
| 70.0  | 155.0 | 1.53691     | 1.03950       | 0.497410   | 1.97069       |
| 155.0 | 224.0 | 0.493605    | 0.356342      | 0.137263   | 1.18011       |
| 224.0 | 290.0 | 0.232092    | 0.180542      | 0.0515497  | 0.892434      |
| 290.0 | 320.0 | 0.107030    | 0.0922787     | 0.0147512  | 0.730656      |
| 320.0 | 540.0 | 0.0324943   | 0.0311938     | 0.00130045 | 0.886533      |
| 540.0 | 650.0 | 0.000000    | 0.000000      | 0.000000   | 0.0100690     |

#3 solar zenith angle = 85 degrees

| 0.500000 | 1.00000 | 332.954   | 216.638   | 116.317     | 279.080    |
|----------|---------|-----------|-----------|-------------|------------|
| 1.00000  | 1.50000 | 186.309   | 121.282   | 65.0263     | 155.146    |
| 1.50000  | 2.00000 | 130.365   | 84.8973   | 45.4673     | 108.244    |
| 2.00000  | 2.50000 | 101.126   | 65.8831   | 35.2424     | 83.9452    |
| 2.50000  | 3.00000 | 82.7245   | 53.9165   | 28.8080     | 68.7282    |
| 3.00000  | 4.00000 | 66.2642   | 43.2116   | 23.0526     | 55.1807    |
| 4.00000  | 5.00000 | 51.6875   | 33.7311   | 17.9564     | 43.2305    |
| 5.00000  | 6.00000 | 42.6018   | 27.8209   | 14.7808     | 35.8005    |
| 6.00000  | 8.00000 | 34.3370   | 22.4442   | 11.8928     | 29.0664    |
| 8.00000  | 10.0000 | 26.6780   | 17.4607   | 9.21728     | 22.8590    |
| 10.0000  | 14.0000 | 20.4952   | 13.4374   | 7.05783     | 17.8967    |
| 14.0000  | 18.0000 | 15.2483   | 10.0220   | 5.22635     | 13.7310    |
| 18.0000  | 32.0000 | 6.38466   | 4.18715   | 2.19751     | 5.60185    |
| 32.0000  | 70.0000 | 4.26771   | 2.82011   | 1.44760     | 4.12253    |
| 70.0000  | 155.000 | 1.65570   | 1.11917   | 0.536534    | 2.12331    |
| 155.000  | 224.000 | 0.552693  | 0.398151  | 0.154542    | 1.29602    |
| 224.000  | 290.000 | 0.240195  | 0.186230  | 0.0539654   | 0.843693   |
| 290.000  | 320.000 | 0.0784236 | 0.0674112 | 0.0110124   | 0.450542   |
| 320.000  | 540.000 | 0.0215314 | 0.0206056 | 0.000925769 | 0.496281   |
| 540.000  | 650.000 | 0.000000  | 0.000000  | 0.000000    | 0.00483089 |
| 650.000  | 798.000 | 0.000000  | 0.000000  | 0.000000    | 0.000000   |

N<sub>2</sub>

N<sub>2</sub><sup>+</sup> States: X<sup>2</sup>π<sub>g</sub> (15.58 eV), A<sup>2</sup>π<sub>u</sub> (16.73 eV), B<sup>2</sup>Σ<sub>u</sub> (18.75 eV)

D.I: D<sup>2</sup>π<sub>g</sub> (22 eV), c<sup>2</sup>Σ<sub>u</sub> (23.6 eV), 40 eV

Dissoc. States : aa'w(12.85 eV) , 1Pu (14 eV), b'(13.75 eV)

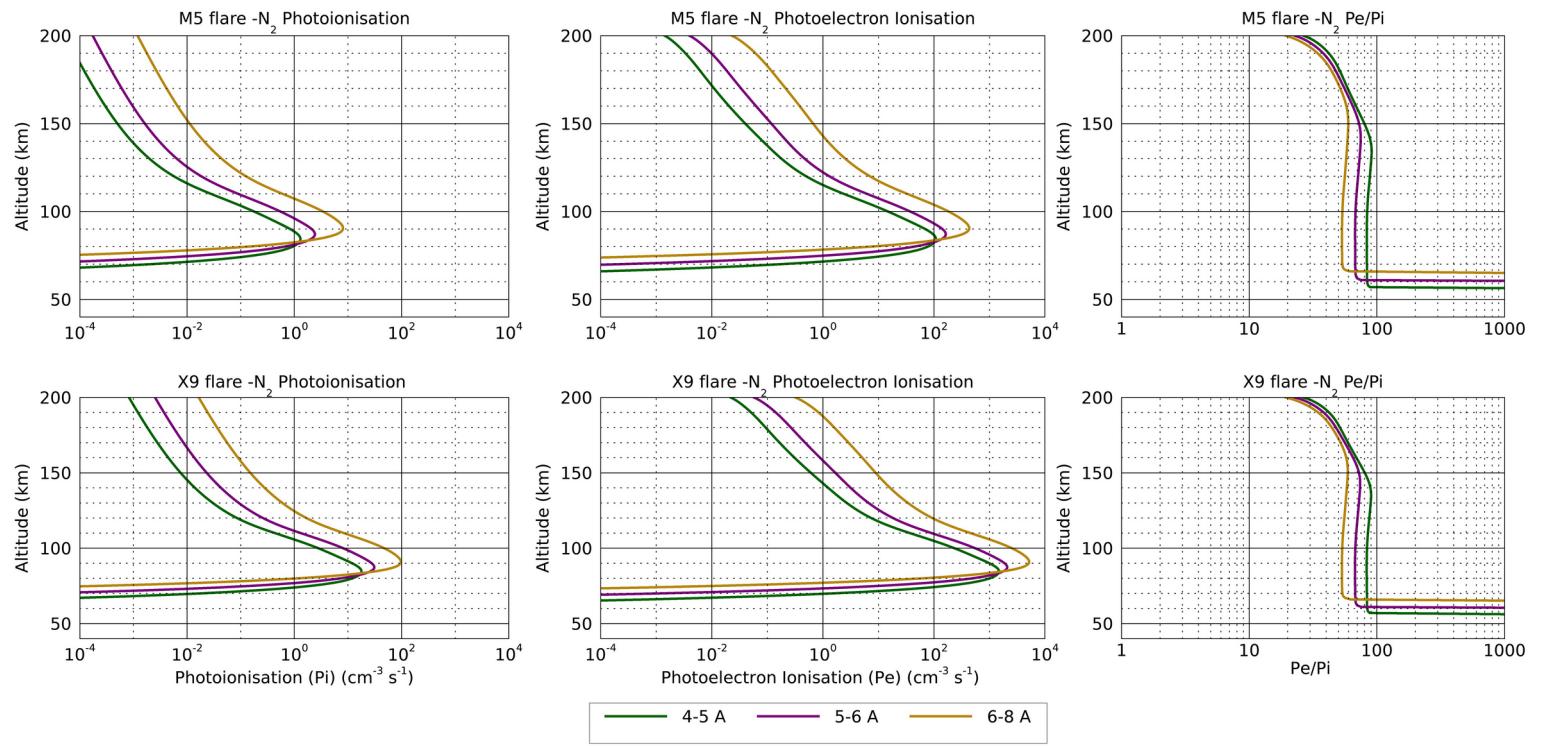
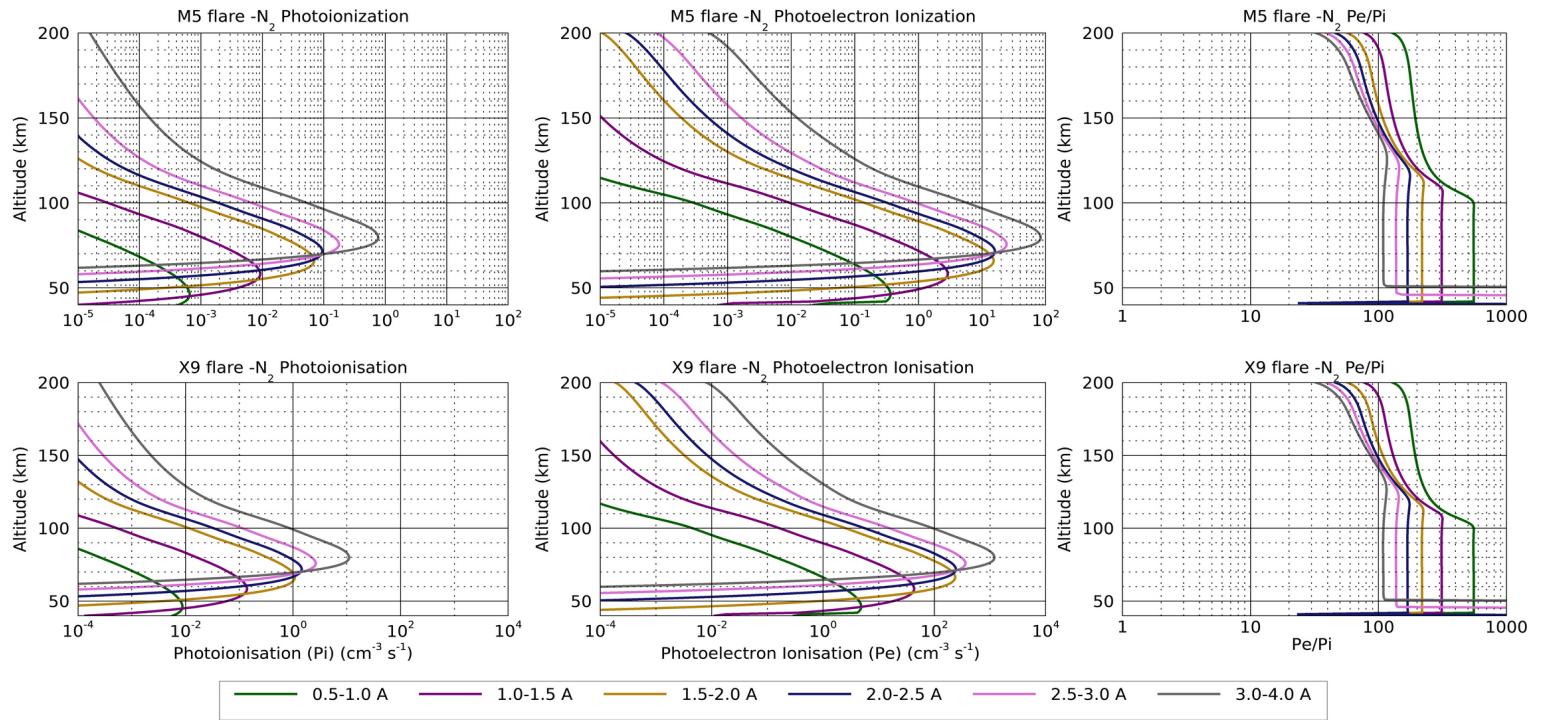
| wv_lo | wv_hi | pe/pi total | pe/pi N <sub>2</sub> <sup>+</sup> | pe/pi D.I   | pe/pi Dissoc. |
|-------|-------|-------------|-----------------------------------|-------------|---------------|
| 0.5   | 1.0   | 554.244     | 432.941                           | 121.302     | 468.146       |
| 1.0   | 1.5   | 312.075     | 243.835                           | 68.2396     | 256.935       |
| 1.5   | 2.0   | 218.995     | 171.151                           | 47.8449     | 177.808       |
| 2.0   | 2.5   | 168.339     | 131.587                           | 36.7520     | 135.375       |
| 2.5   | 3.0   | 136.931     | 107.061                           | 29.8708     | 109.399       |
| 3.0   | 4.0   | 108.693     | 85.0086                           | 23.6843     | 86.3022       |
| 4.0   | 5.0   | 83.1988     | 65.0988                           | 18.1000     | 65.6856       |
| 5.0   | 6.0   | 67.3960     | 52.7570                           | 14.6390     | 53.0568       |
| 6.0   | 8.0   | 53.2003     | 41.6693                           | 11.5310     | 41.8379       |
| 8.0   | 10.0  | 40.7456     | 31.9406                           | 8.80503     | 32.1076       |
| 10.0  | 14.0  | 30.7945     | 24.1657                           | 6.62882     | 24.4483       |
| 14.0  | 18.0  | 22.5428     | 17.7163                           | 4.82655     | 18.1925       |
| 18.0  | 32.0  | 21.2291     | 16.6604                           | 4.56866     | 16.8441       |
| 32.0  | 70.0  | 7.60902     | 6.00068                           | 1.60834     | 6.43048       |
| 70.0  | 155.0 | 2.74522     | 2.20070                           | 0.544520    | 2.82219       |
| 155.0 | 224.0 | 0.803526    | 0.679074                          | 0.124451    | 1.22585       |
| 224.0 | 290.0 | 0.432018    | 0.386060                          | 0.0459575   | 0.891685      |
| 290.0 | 320.0 | 0.223247    | 0.212181                          | 0.0110664   | 0.636983      |
| 320.0 | 540.0 | 0.0329135   | 0.0327067                         | 0.000206853 | 0.166602      |
| 540.0 | 650.0 | 0.0         | 0.0                               | 0.0         | 0.0           |

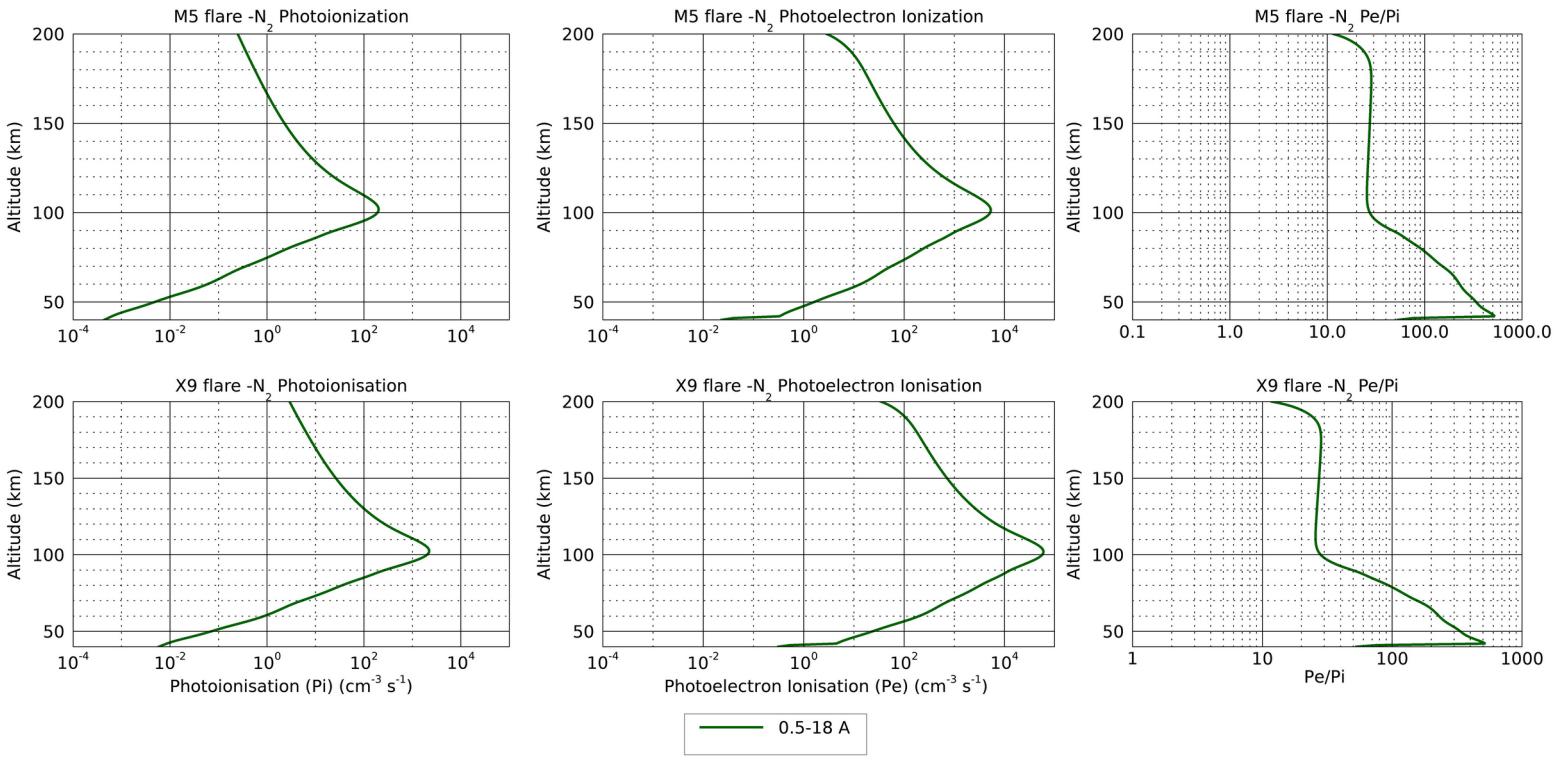
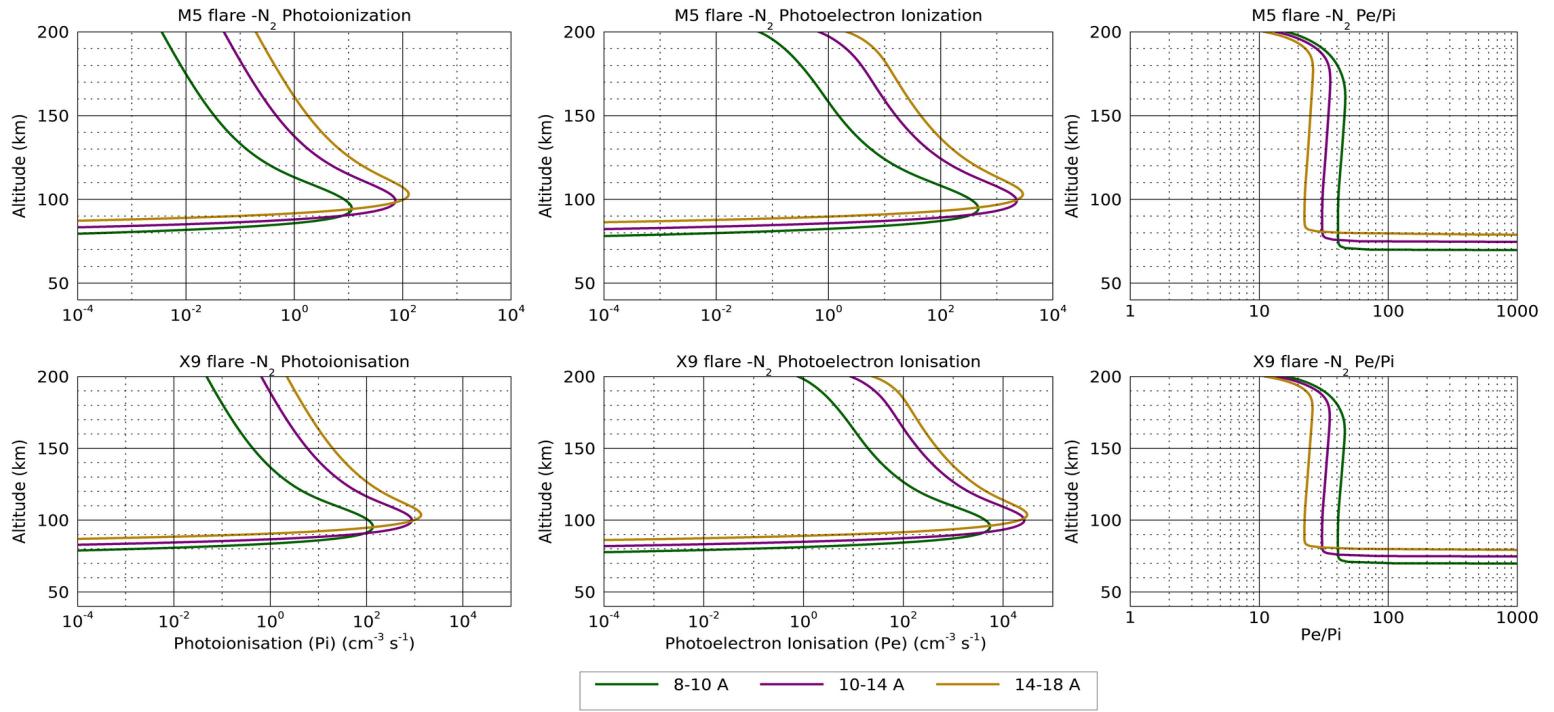
|          |         |           |           |             |          |
|----------|---------|-----------|-----------|-------------|----------|
| 0.500000 | 1.00000 | 554.269   | 432.961   | 121.308     | 468.167  |
| 1.00000  | 1.50000 | 312.095   | 243.851   | 68.2440     | 256.952  |
| 1.50000  | 2.00000 | 219.016   | 171.167   | 47.8495     | 177.825  |
| 2.00000  | 2.50000 | 167.929   | 131.261   | 36.6681     | 134.980  |
| 2.50000  | 3.00000 | 136.543   | 106.751   | 29.7914     | 109.024  |
| 3.00000  | 4.00000 | 108.337   | 84.7249   | 23.6117     | 85.9586  |
| 4.00000  | 5.00000 | 82.9007   | 64.8608   | 18.0399     | 65.3921  |
| 5.00000  | 6.00000 | 67.1882   | 52.5899   | 14.5983     | 52.8393  |
| 6.00000  | 8.00000 | 53.0853   | 41.5747   | 11.5105     | 41.6925  |
| 8.00000  | 10.0000 | 40.6574   | 31.8669   | 8.79044     | 31.9818  |
| 10.0000  | 14.0000 | 30.6818   | 24.0729   | 6.60889     | 24.3032  |
| 14.0000  | 18.0000 | 22.4184   | 17.6152   | 4.80322     | 18.0479  |
| 18.0000  | 32.0000 | 20.7111   | 16.2505   | 4.46059     | 16.3882  |
| 32.0000  | 70.0000 | 7.54506   | 5.94912   | 1.59594     | 6.36174  |
| 70.0000  | 155.000 | 2.71421   | 2.17537   | 0.538842    | 2.78425  |
| 155.000  | 224.000 | 0.793684  | 0.670675  | 0.123010    | 1.20982  |
| 224.000  | 290.000 | 0.428943  | 0.383285  | 0.0456575   | 0.884743 |
| 290.000  | 320.000 | 0.222208  | 0.211336  | 0.0108716   | 0.634846 |
| 320.000  | 540.000 | 0.0326968 | 0.0325012 | 0.000195591 | 0.166352 |
| 540.000  | 650.000 | 0.00000   | 0.00000   | 0.00000     |          |

|          |         |           |           |             |          |
|----------|---------|-----------|-----------|-------------|----------|
| 0.500000 | 1.00000 | 554.414   | 433.075   | 121.340     | 468.289  |
| 1.00000  | 1.50000 | 312.210   | 243.941   | 68.2692     | 257.046  |
| 1.50000  | 2.00000 | 218.543   | 170.789   | 47.7539     | 177.351  |
| 2.00000  | 2.50000 | 168.353   | 131.596   | 36.7570     | 135.362  |
| 2.50000  | 3.00000 | 137.059   | 107.158   | 29.9005     | 109.478  |
| 3.00000  | 4.00000 | 108.992   | 85.2410   | 23.7514     | 86.5184  |
| 4.00000  | 5.00000 | 83.6906   | 65.4807   | 18.2100     | 66.0406  |
| 5.00000  | 6.00000 | 67.9291   | 53.1693   | 14.7599     | 53.4181  |
| 6.00000  | 8.00000 | 53.6919   | 42.0473   | 11.6446     | 42.1406  |
| 8.00000  | 10.0000 | 41.1994   | 32.2881   | 8.91120     | 32.3672  |
| 10.0000  | 14.0000 | 31.2482   | 24.5141   | 6.73402     | 24.7173  |
| 14.0000  | 18.0000 | 22.9626   | 18.0410   | 4.92156     | 18.4710  |
| 18.0000  | 32.0000 | 22.6947   | 17.8056   | 4.88914     | 17.9506  |
| 32.0000  | 70.0000 | 7.82851   | 6.17159   | 1.65693     | 6.58992  |
| 70.0000  | 155.000 | 2.92240   | 2.34102   | 0.581380    | 2.98657  |
| 155.000  | 224.000 | 0.887750  | 0.748944  | 0.138805    | 1.33961  |
| 224.000  | 290.000 | 0.443121  | 0.395214  | 0.0479067   | 0.897770 |
| 290.000  | 320.000 | 0.162684  | 0.154487  | 0.00819766  | 0.454151 |
| 320.000  | 540.000 | 0.0216994 | 0.0215456 | 0.000153774 | 0.108045 |
| 540.000  | 650.000 | 0.00000   | 0.00000   | 0.00000     | 0.00000  |

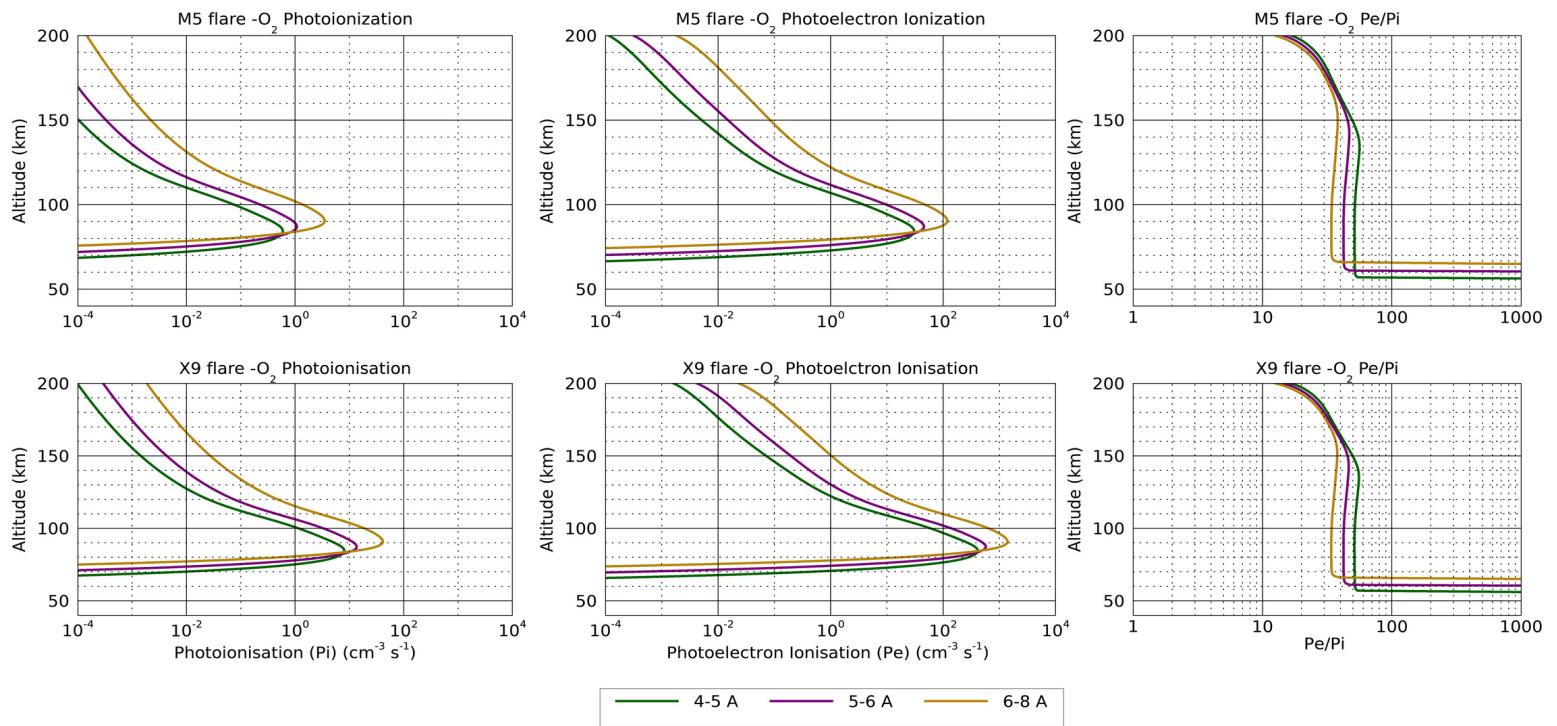
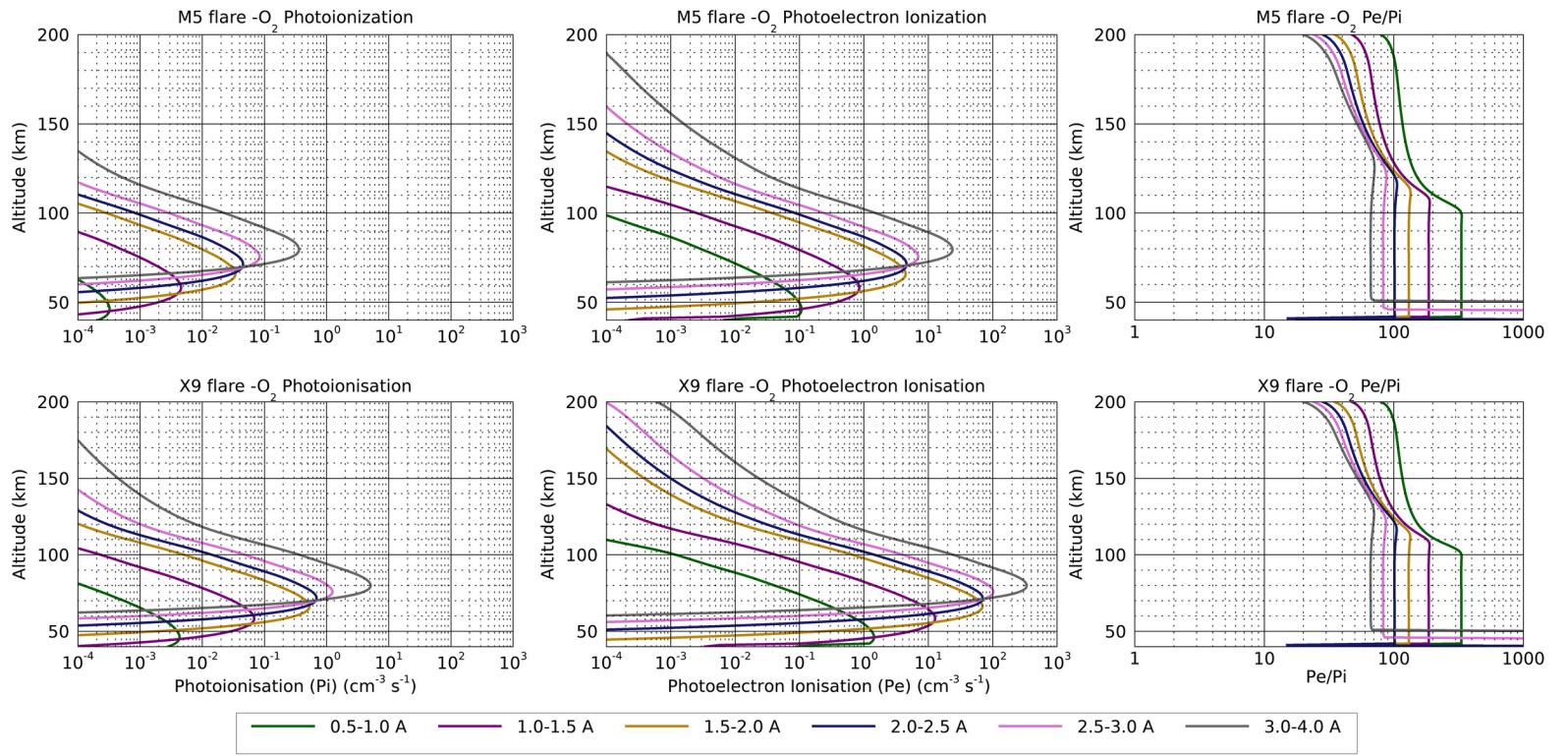
### Plots

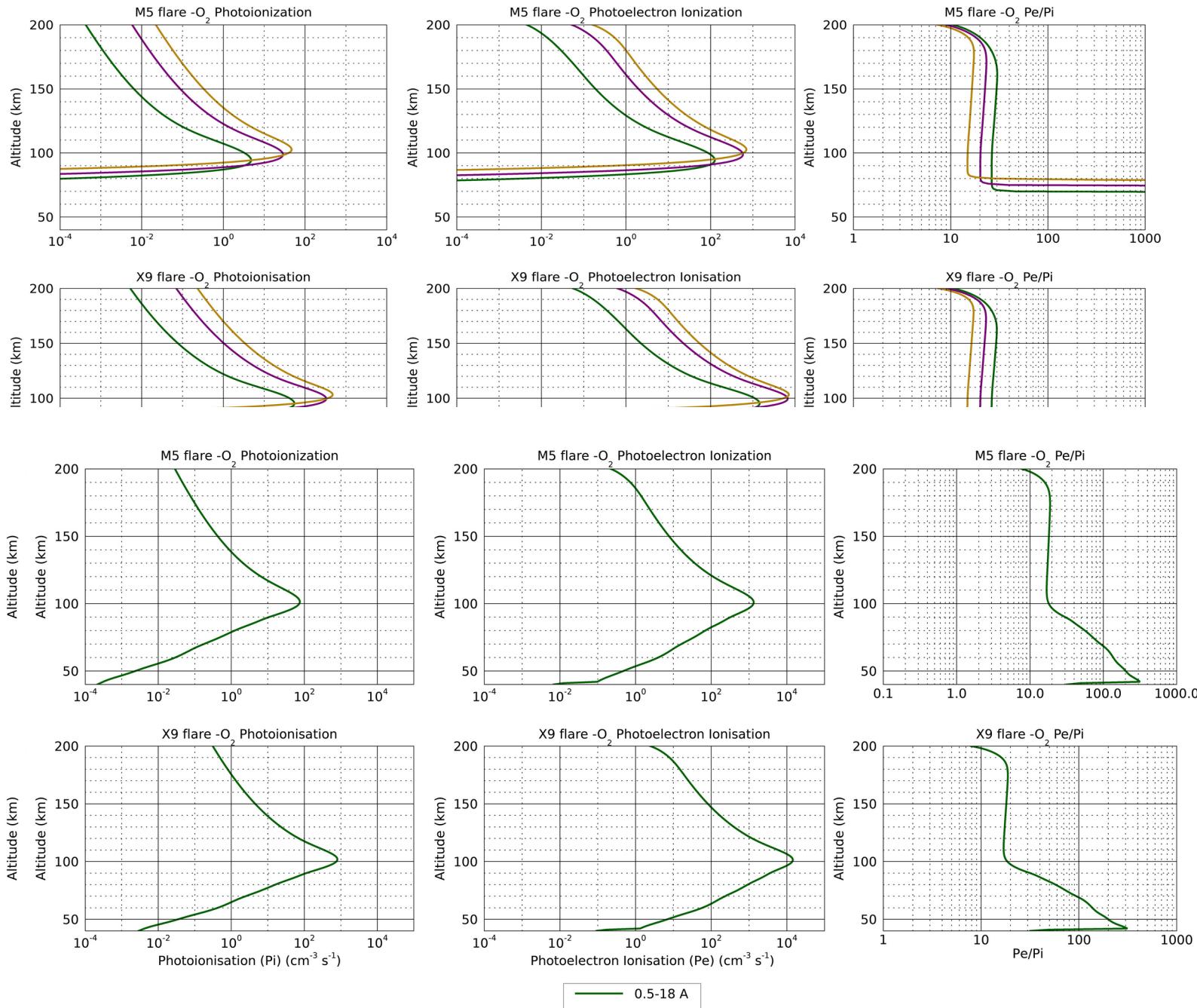
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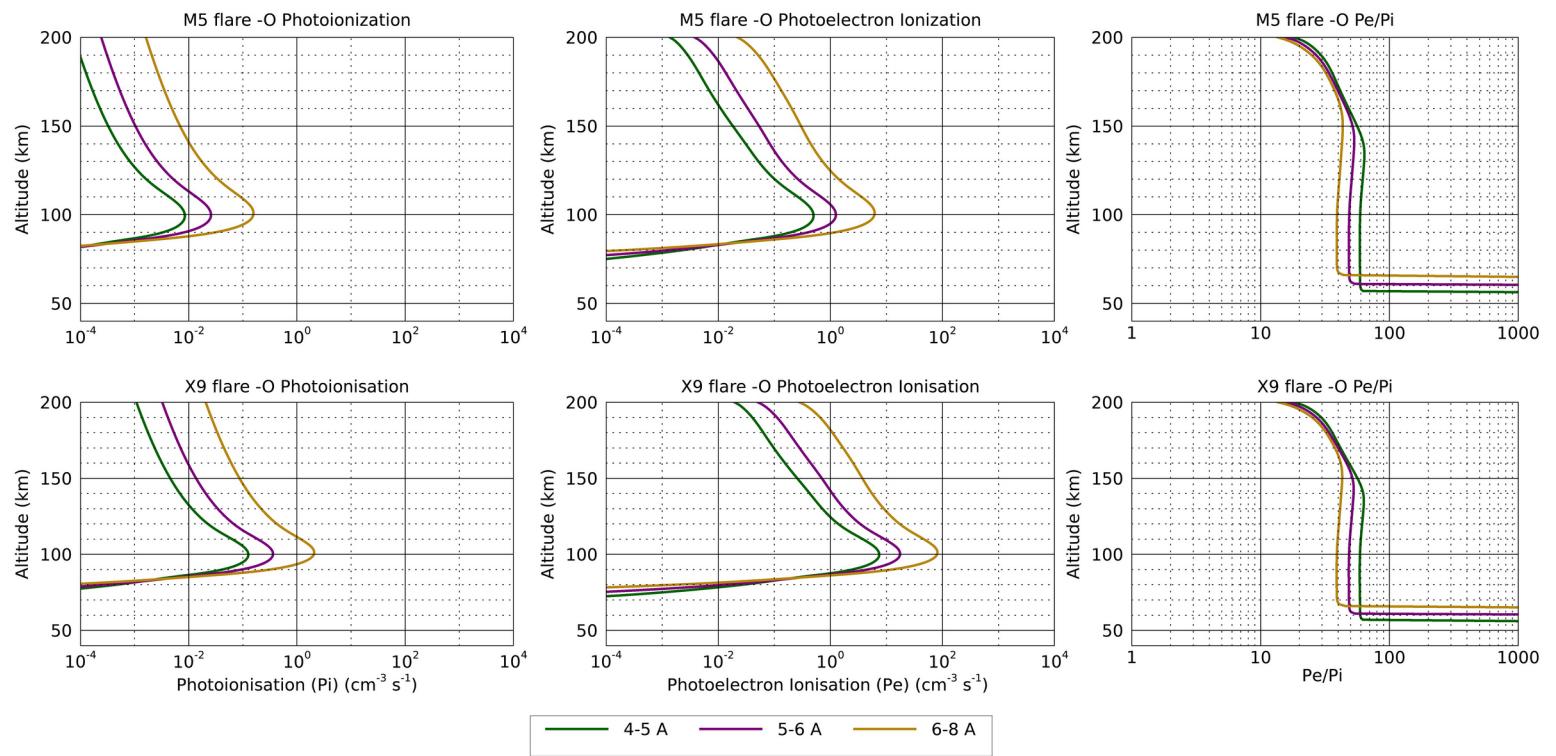
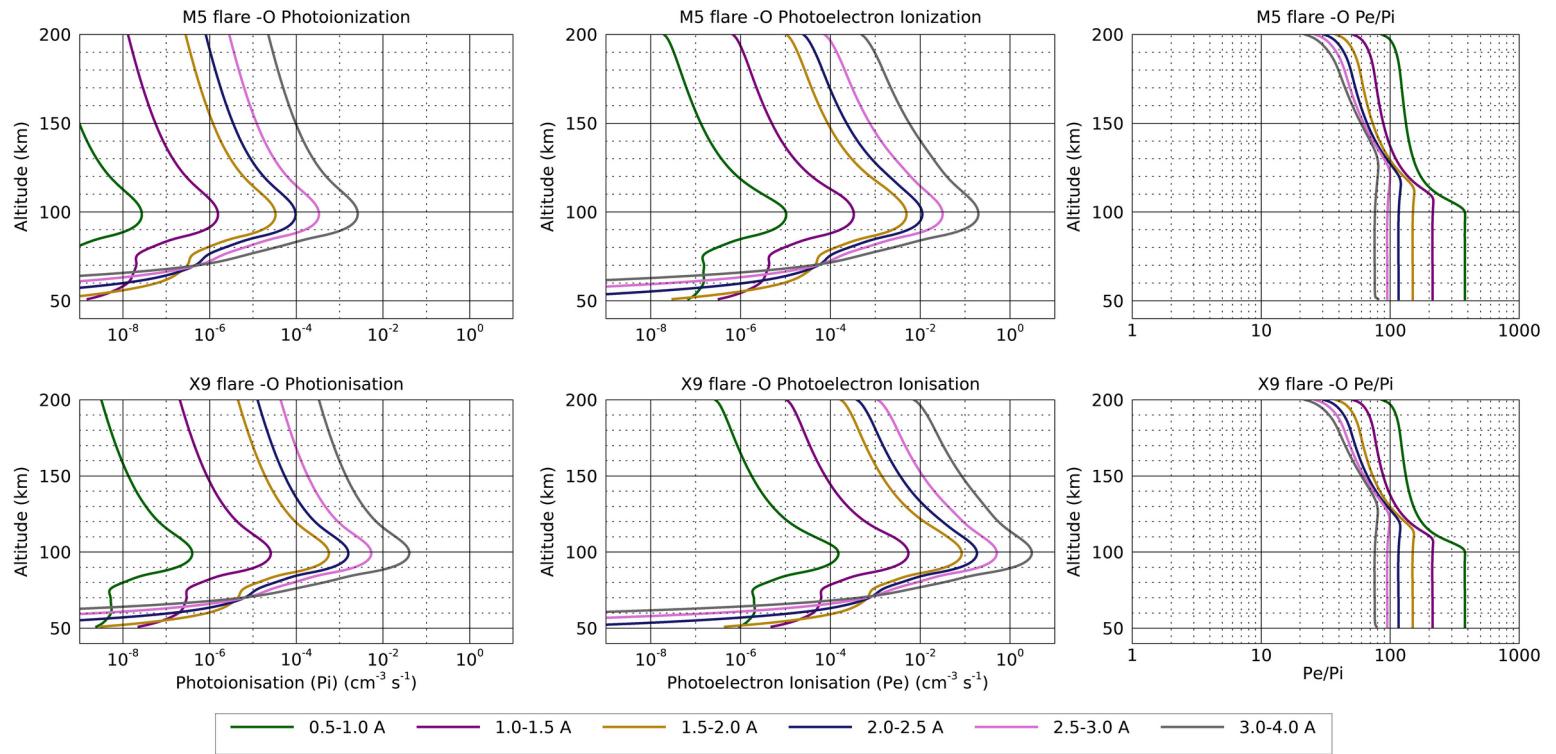


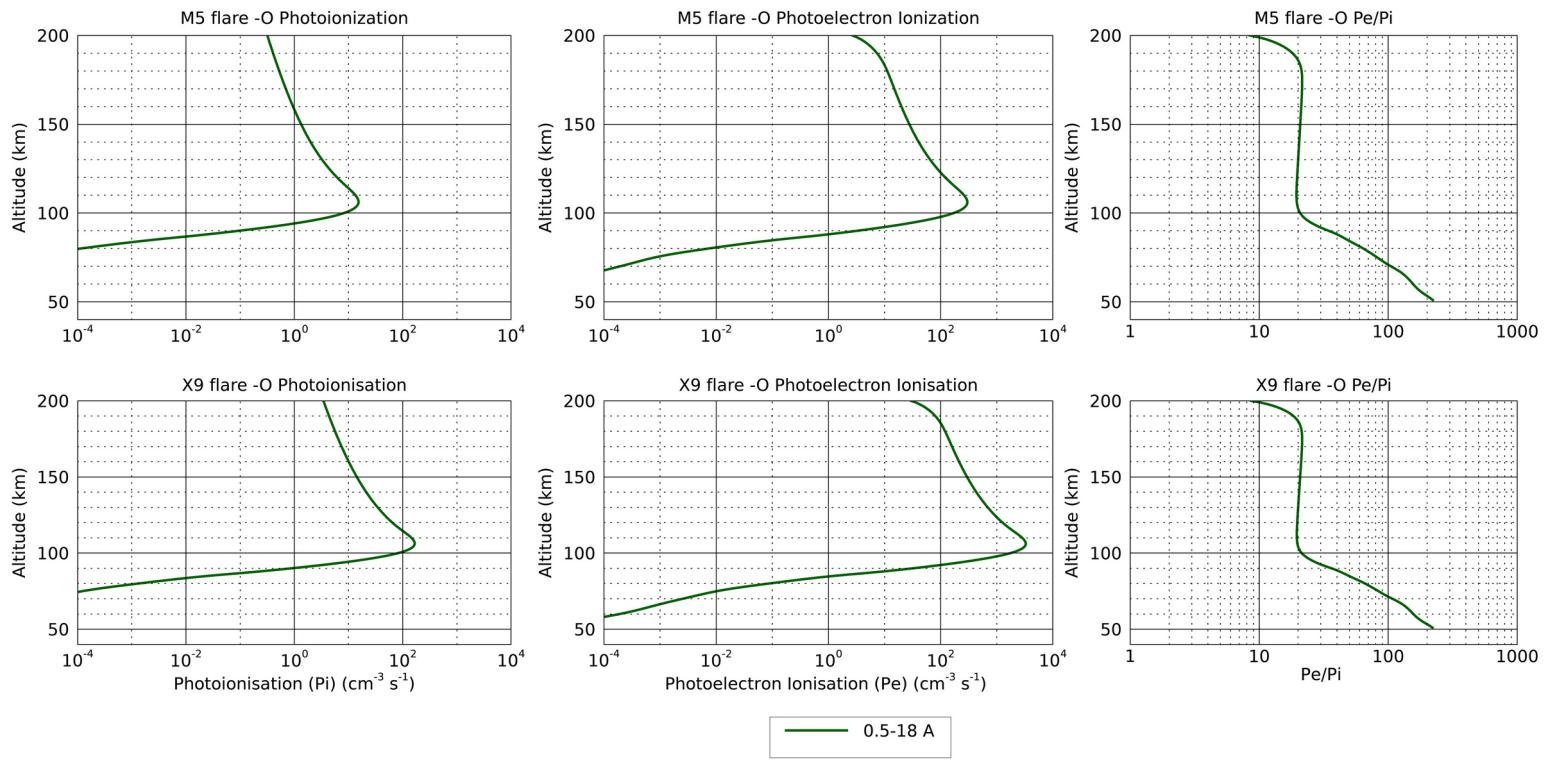
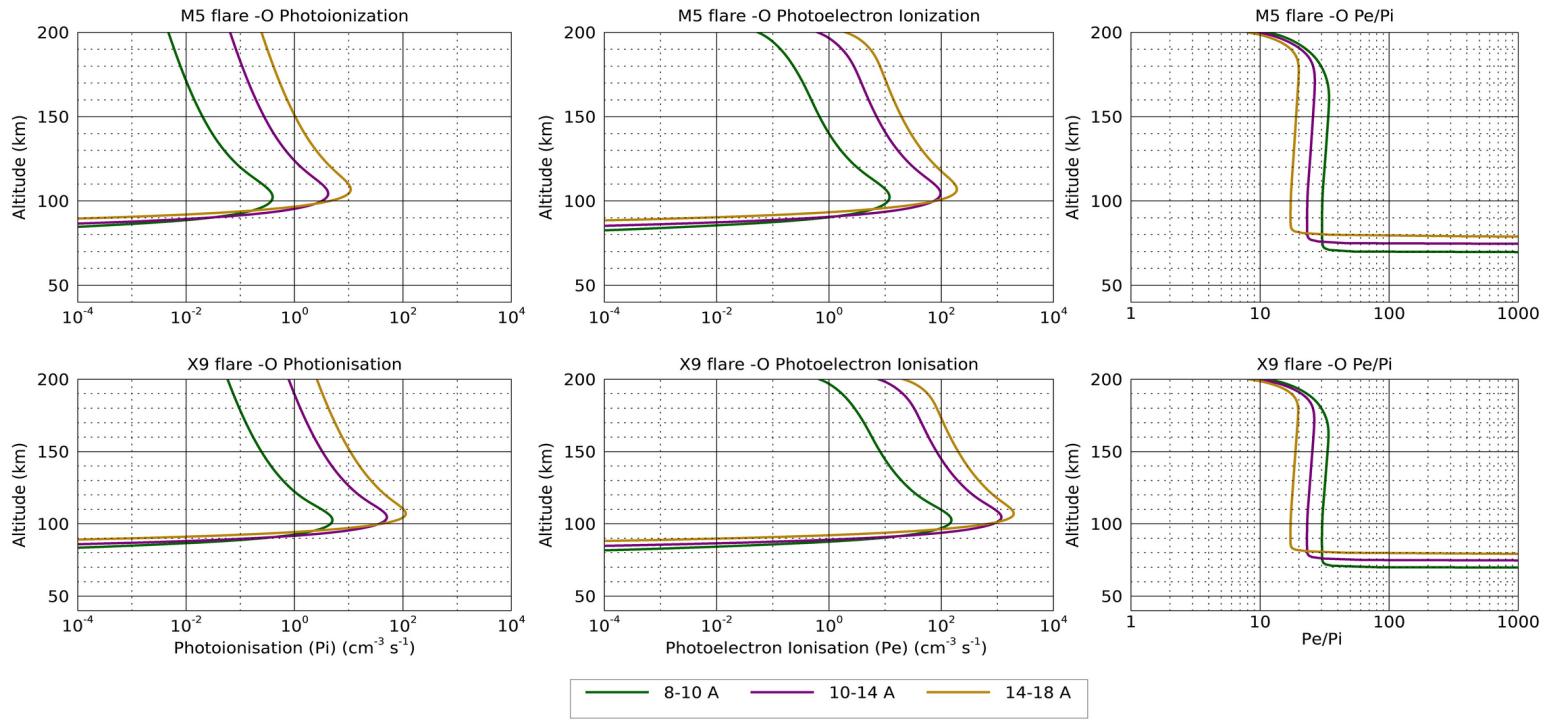
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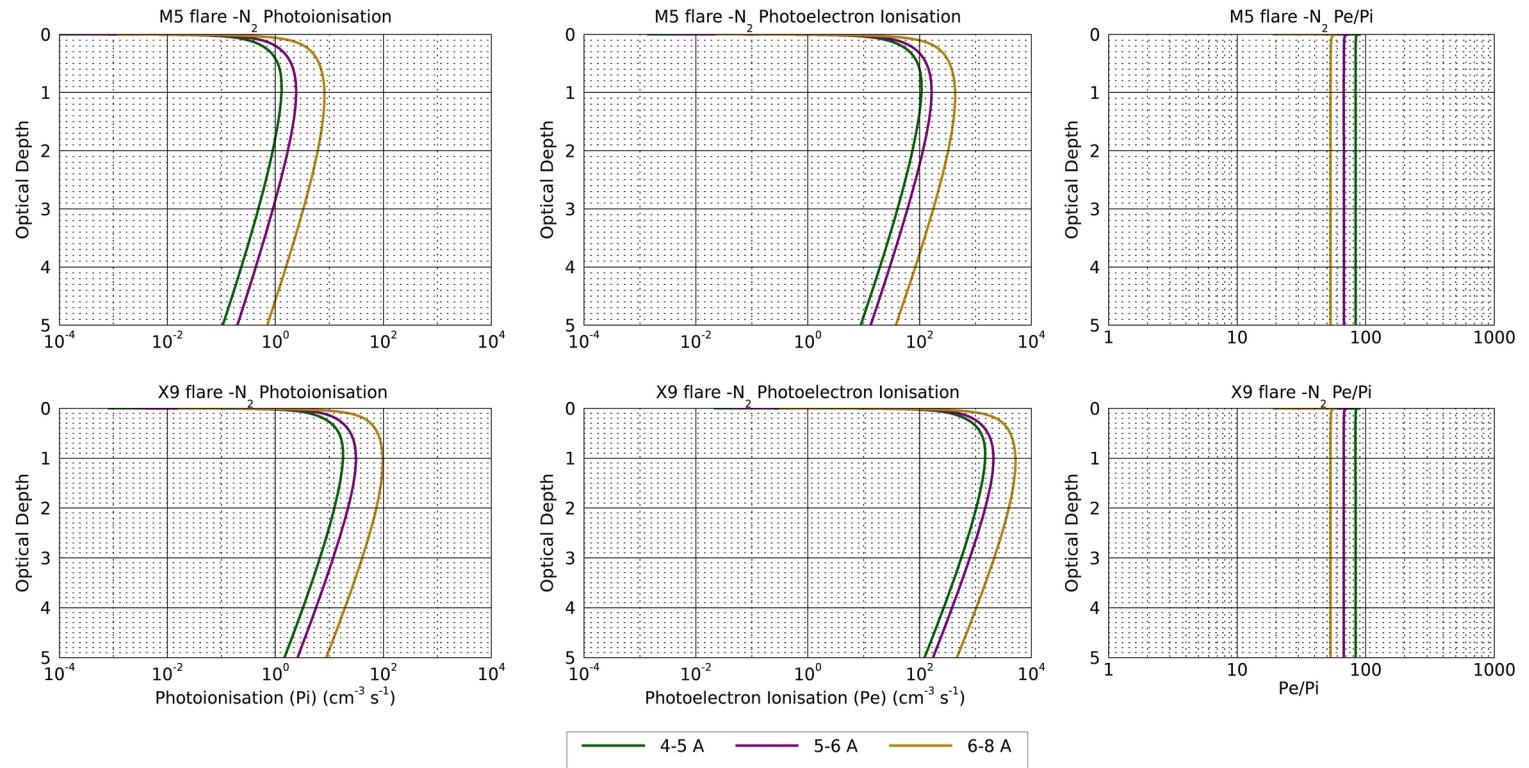
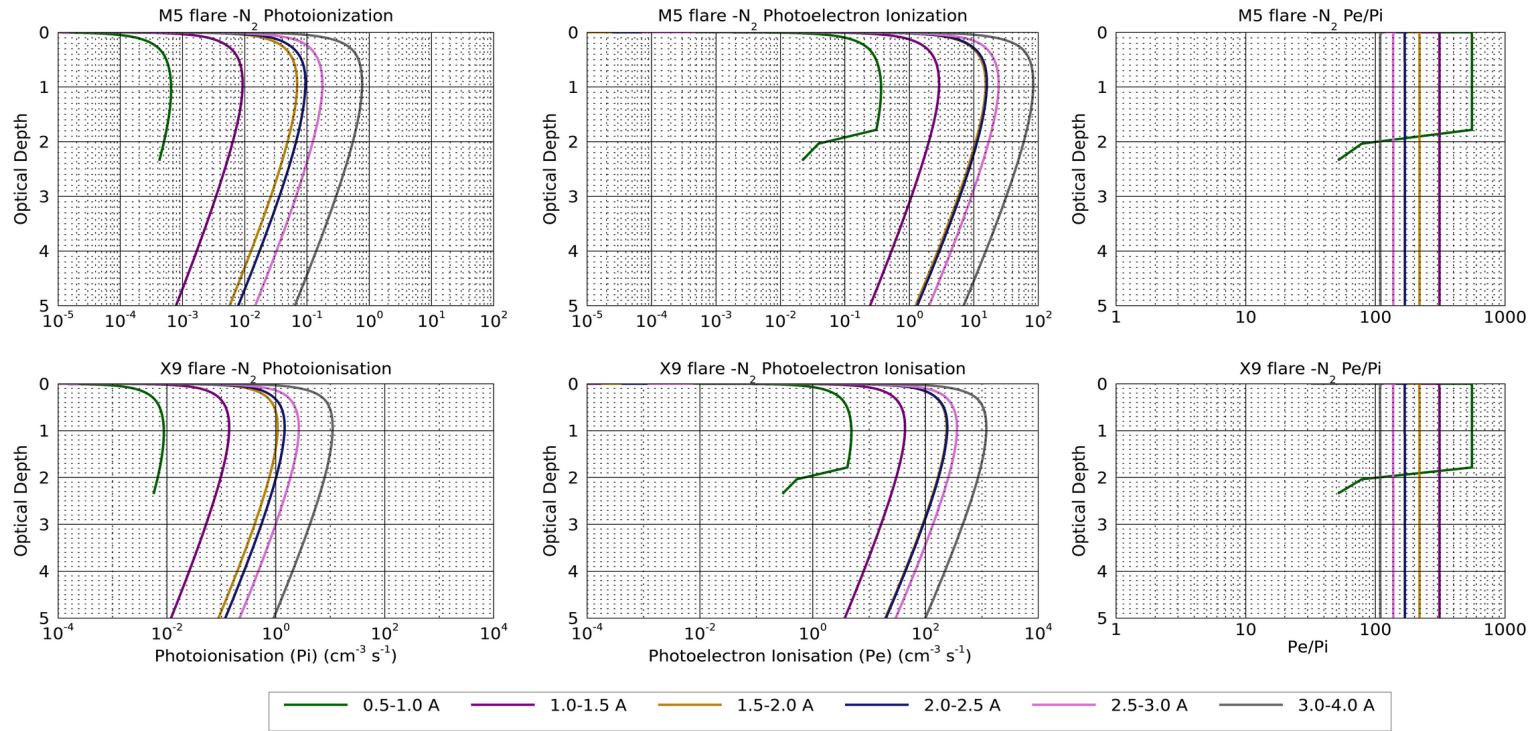
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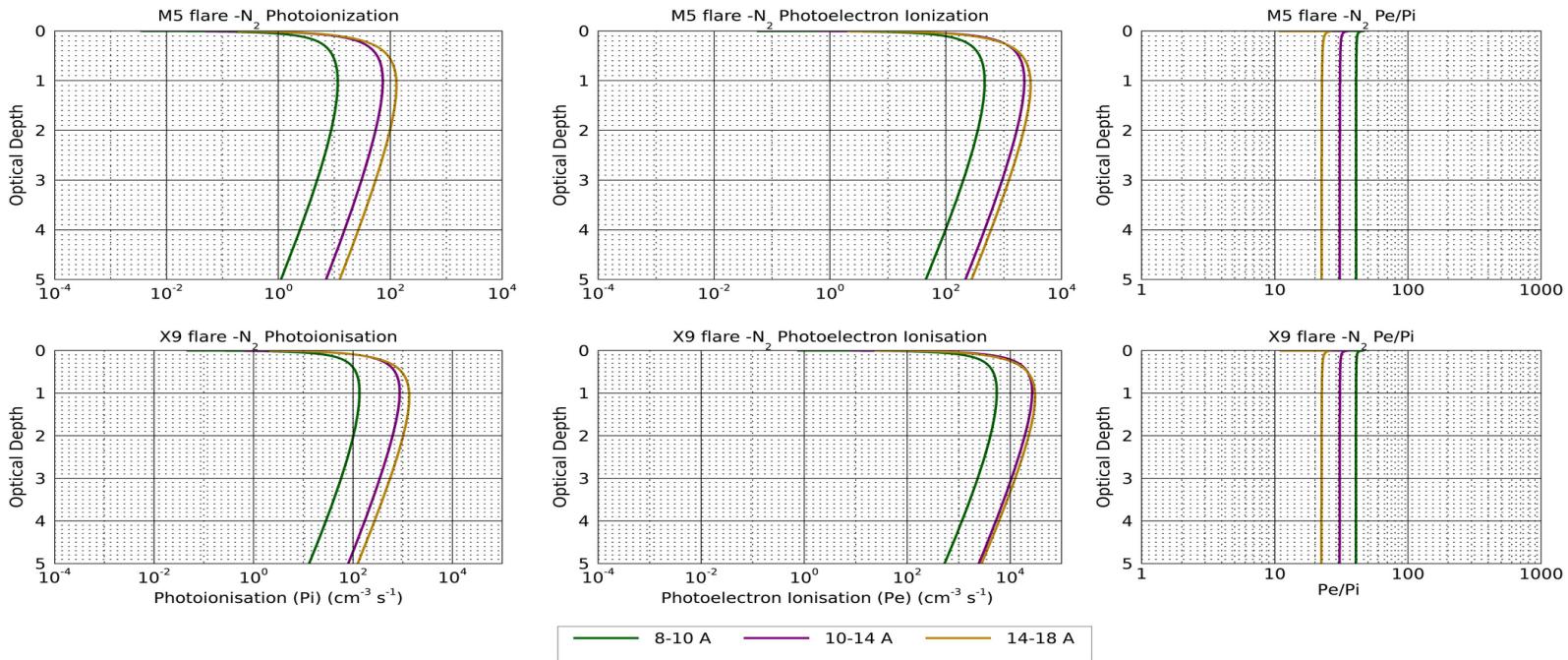




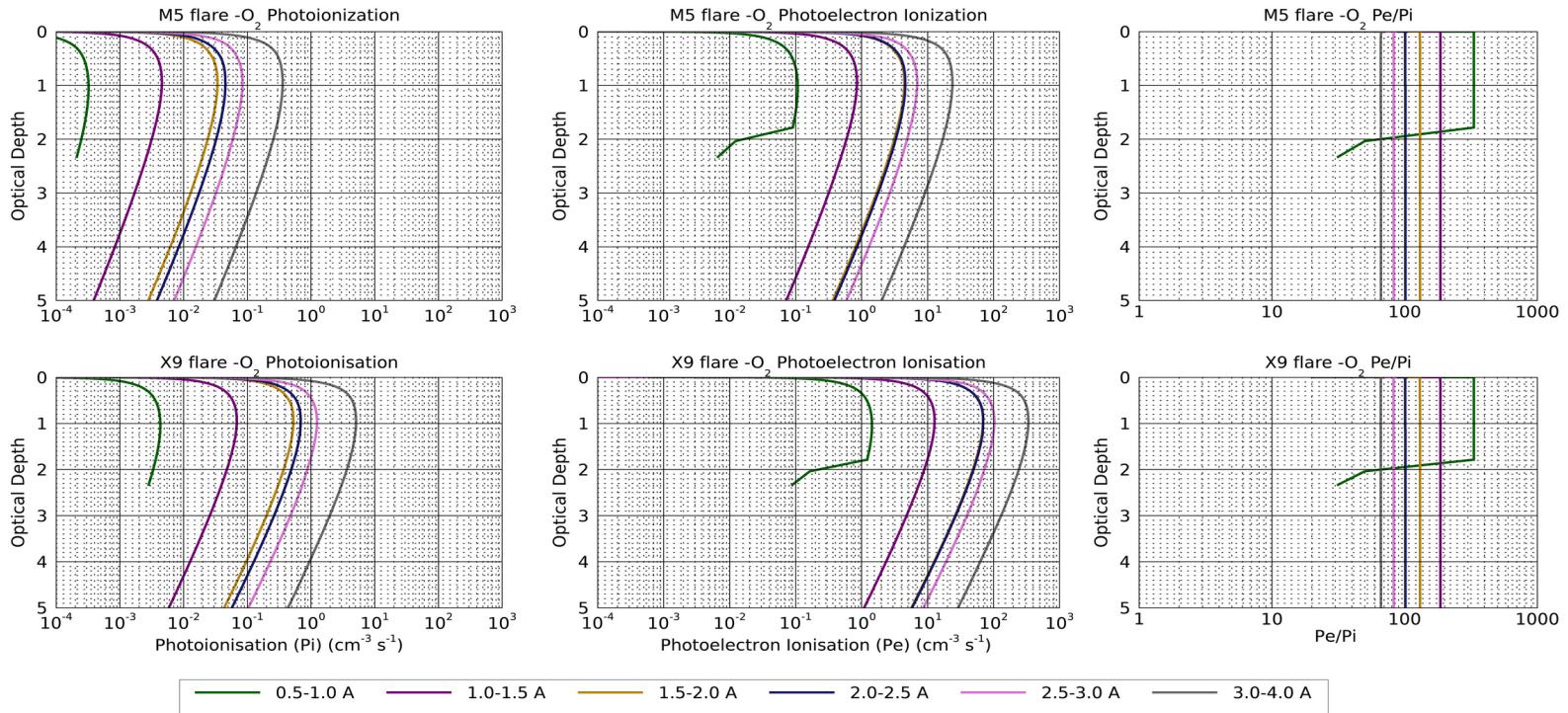
## Optical Depth Plots

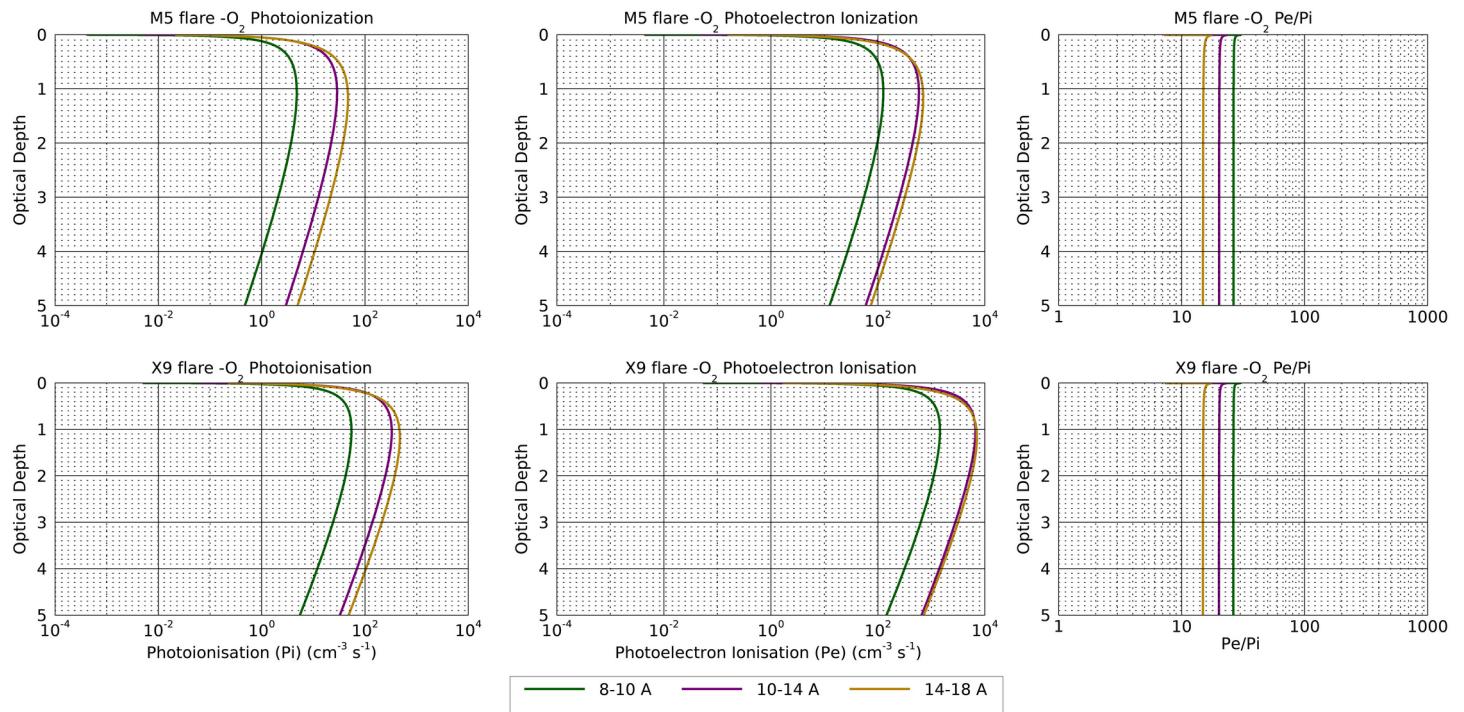
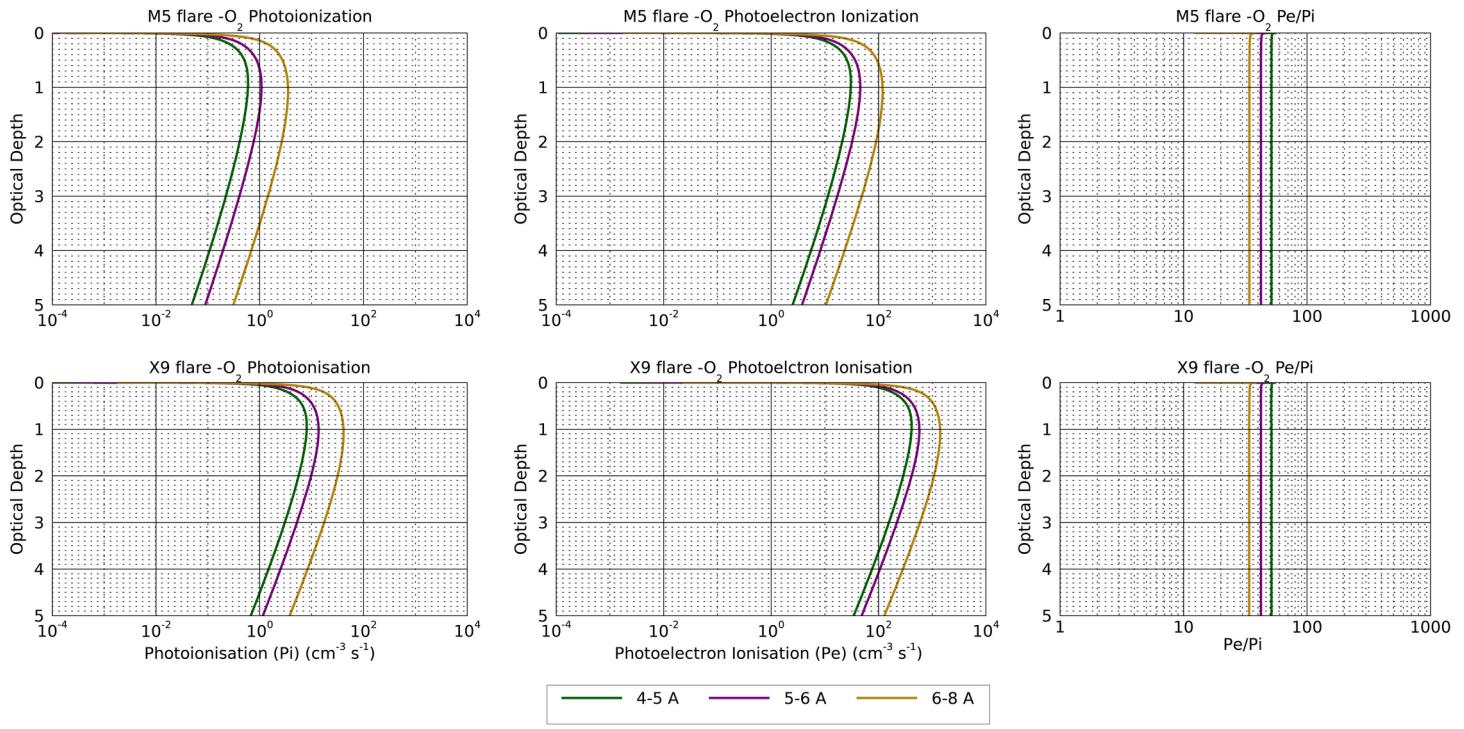
$N_2$



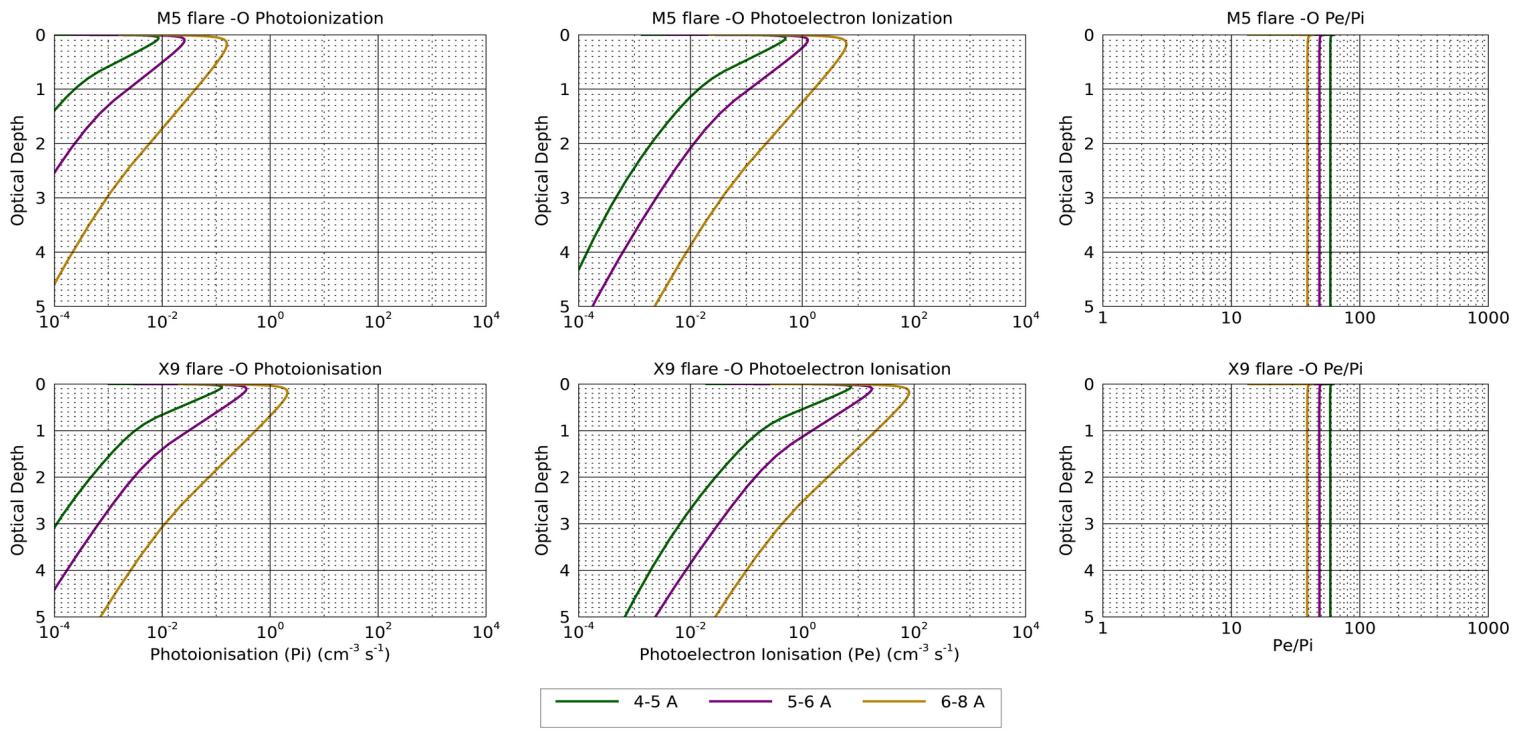
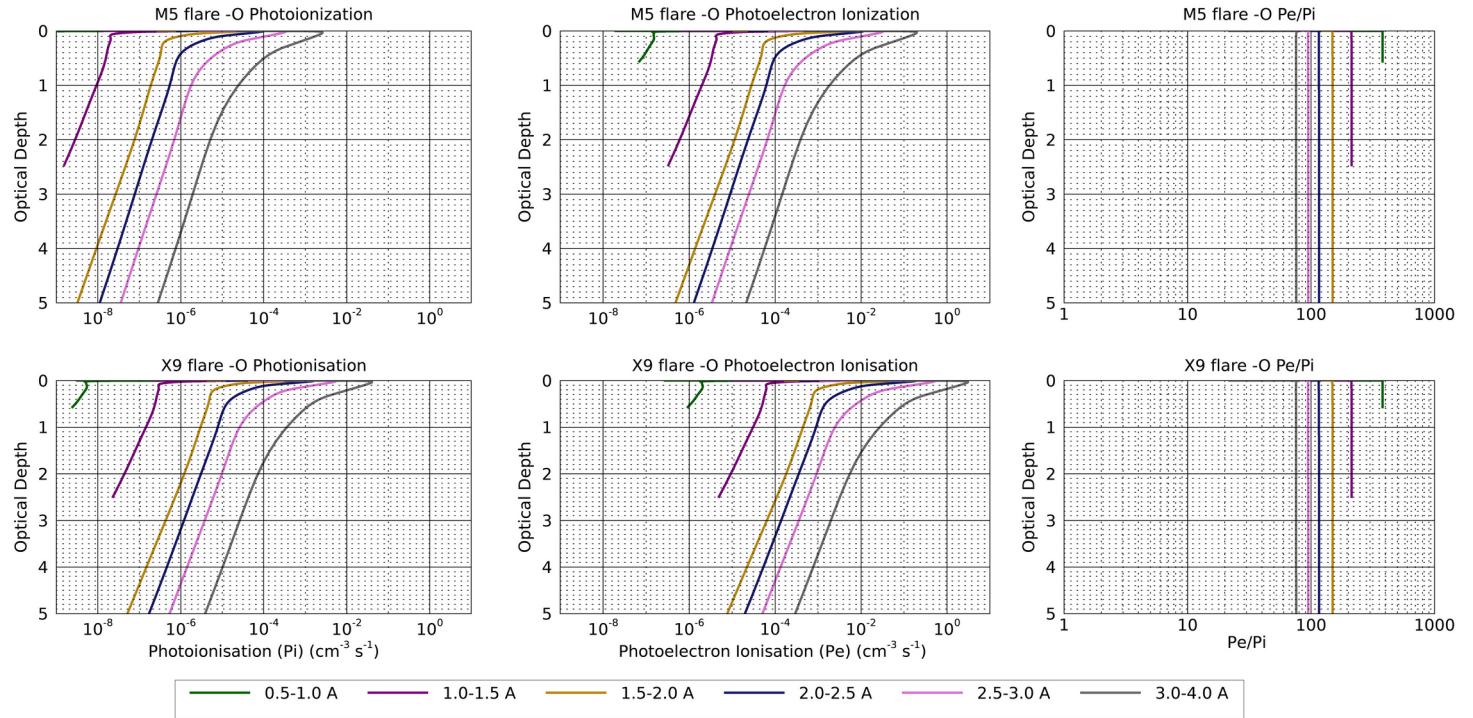


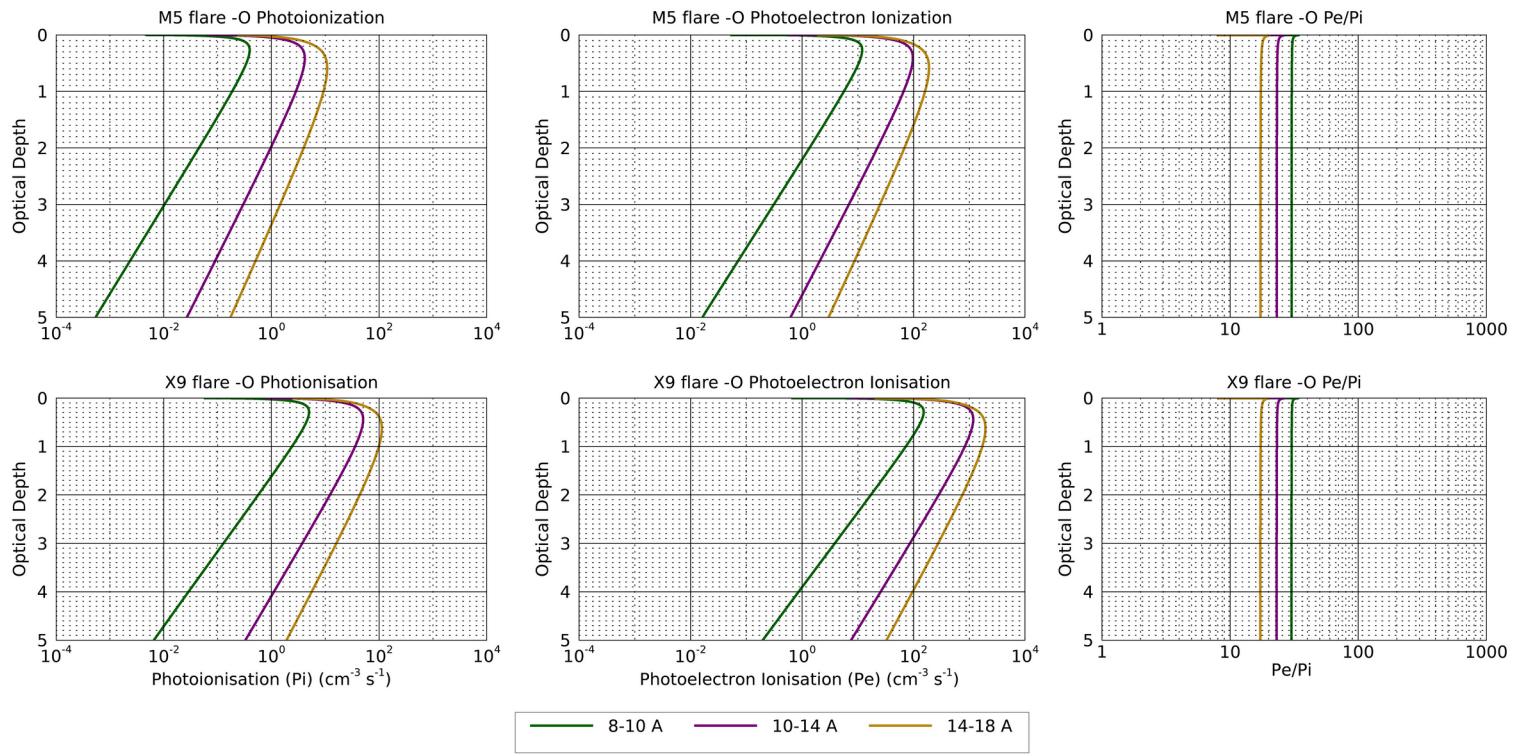
$\text{O}_2$





0





### Absorption Cross-sections

| wv_lo  | wv_hi  | 0 σ (10 <sup>-18</sup> cm <sup>2</sup> ) | O <sub>2</sub> | N <sub>2</sub> |
|--------|--------|------------------------------------------|----------------|----------------|
| 0.5    | 1.0    | 3.10616e-05                              | 6.21232e-05    | 3.38383e-05    |
| 1.0    | 1.5    | 0.000136550                              | 0.000273099    | 0.000148579    |
| 1.5    | 2.0    | 0.000416282                              | 0.000832564    | 0.000454559    |
| 2.0    | 2.5    | 0.000937490                              | 0.00187498     | 0.00103438     |
| 2.5    | 3.0    | 0.00183139                               | 0.00366278     | 0.00203672     |
| 3.0    | 4.0    | 0.00347342                               | 0.00694684     | 0.00390625     |
| 4.0    | 5.0    | 0.00747799                               | 0.0149560      | 0.00858722     |
| 5.0    | 6.0    | 0.0132881                                | 0.0265763      | 0.0155662      |
| 6.0    | 8.0    | 0.0262560                                | 0.0525121      | 0.0315442      |
| 8.0    | 10.0   | 0.0524707                                | 0.104941       | 0.0643111      |
| 10.0   | 14.0   | 0.112422                                 | 0.224844       | 0.140798       |
| 14.0   | 18.0   | 0.235676                                 | 0.471352       | 0.301915       |
| 18.0   | 32.0   | 0.113434                                 | 0.225907       | 0.935826       |
| 32.0   | 70.0   | 0.324817                                 | 0.647191       | 0.346435       |
| 70.0   | 155.0  | 1.31905                                  | 2.63194        | 1.52725        |
| 155.0  | 224.0  | 3.78323                                  | 7.62835        | 5.08587        |
| 224.0  | 290.0  | 6.02385                                  | 13.2125        | 9.93753        |
| 290.0  | 320.0  | 7.72052                                  | 16.8233        | 11.7383        |
| 320.0  | 540.0  | 10.7175                                  | 20.3066        | 19.6515        |
| 540.0  | 650.0  | 13.1253                                  | 27.0314        | 23.0931        |
| 650.0  | 798.0  | 3.89706                                  | 20.5939        | 17.2447        |
| 650.0  | 798.0  | 13.4654                                  | 27.1293        | 46.8904        |
| 798.0  | 913.0  | 2.44635                                  | 7.11428        | 2.14344        |
| 798.0  | 913.0  | 3.17619                                  | 11.3027        | 7.85536        |
| 798.0  | 913.0  | 6.24247                                  | 22.6321        | 34.4904        |
| 913.0  | 975.0  | 0.00000                                  | 6.00765        | 2.04093        |
| 913.0  | 975.0  | 0.00000                                  | 14.7696        | 9.90592        |
| 913.0  | 975.0  | 0.00000                                  | 31.2864        | 87.2351        |
| 975.0  | 987.0  | 0.00000                                  | 18.7144        | 2.50944        |
| 987.0  | 1027.0 | 0.00000                                  | 2.74807        | 0.00000        |
| 1027.0 | 1050.0 | 0.00000                                  | 0.00000        | 0.00000        |