```
500487 function calls (486762 primitive calls) in 6.843 seconds
  Ordered by: call count
  ncalls tottime percall cumtime percall filename:lineno(function)
                            0.007
           0.007
                    0.000
                                   0.000
   51005
einsumfunc.py:989(_einsum_dispatcher)
26095/24047
                      0.000
                             0.143
                                      0.000 {built-in method
            0.043
numpy.core. multiarray umath.implement array function}
   17934
           0.002
                   0.000 0.002
                                   0.000 {built-in method
builtins.isinstance}
                                      0.000 {built-in method
16380/15776
            0.002
                      0.000 0.002
builtins.len}
   14473
          0.004
                   0.000
                           0.004
                                   0.000 {built-in method
builtins.getattr}
   13944
          0.002 0.000
                            0.002
                                    0.000 {method 'append' of 'list'
objects}
12050/5050
           0.009
                    0.000
                            0.433
                                     0.000 descriptorlib.py:9( get )
           0.004
                    0.000
                            0.058
                                     0.000 einsumfunc.py:997(einsum)
   10001
   10001
          0.005
                    0.000
                            0.084
                                     0.000 <__array_function__
internals>:177(einsum)
   10001
           0.054
                                    0.000 {built-in method
                    0.000
                            0.054
numpy.core. multiarray umath.c einsum}
```

## cProfile run for the track\_planet command, with the Top 10 most called functions

```
551110 function calls (537214 primitive calls) in 4.073 seconds
  Ordered by: call count
  ncalls tottime percall cumtime percall filename: lineno(function)
                                     0.000 {method 'append' of 'list'
   49009
           0.005
                    0.000
                            0.005
objects}
                                     0.000
   36005
           0.004
                   0.000
                            0.004
einsumfunc.py:989(_einsum_dispatcher)
   22268
                   0.000
                                     0.000 {built-in method
           0.005
                            0.006
builtins.getattr}
20063/19035
            0.032
                      0.000
                             0.083
                                       0.000 {built-in method
numpy.core._multiarray_umath.implement_array_function}
          0.002
                   0.000 0.002
                                    0.000 {built-in method
builtins.isinstance}
15857/15253
            0.002 0.000 0.002
                                       0.000 {built-in method
builtins.len}
   14840
           0.054
                    0.000
                            0.054
                                     0.000 {built-in method
builtins.divmod}
           1.790
   12000
                            1.911
                                     0.000 spk.py:201(generate)
                    0.000
```

```
10464/3464 0.009 0.000 0.352 0.000 descriptorlib.py:9(__get__)
10000 0.001 0.000 0.001 0.000 multiarray.py:736(dot)
```

## cProfile run for the track\_asteroid command with the Top 10 most called functions

```
518957 function calls (506244 primitive calls) in 2.389 seconds
  Ordered by: call count
  ncalls tottime percall cumtime percall filename:lineno(function)
                                    0.000 {method 'append' of 'list'
           0.004
                            0.004
   37945
                    0.000
objects}
   36005
           0.004
                    0.000
                            0.004
                                   0.000
einsumfunc.py:989(_einsum_dispatcher)
21059/20031
            0.033
                      0.000
                             0.088
                                     0.000 {built-in method
numpy.core._multiarray_umath.implement_array_function}
   18487
           0.002
                    0.000 0.002
                                   0.000 {built-in method
builtins.isinstance}
   17146 0.005
                    0.000 0.005 0.000 {built-in method
builtins.getattr}
                                      0.000 {built-in method
15850/15246 0.002
                      0.000 0.002
builtins.len}
   13126
          0.003
                    0.000
                            0.003
                                    0.000 {built-in method
builtins.hasattr}
10403/4403 0.009
                    0.000
                            0.358
                                     0.000 descriptorlib.py:9( get )
   10000
           0.001
                    0.000
                            0.001
                                     0.000 multiarray.py:736(dot)
   10000
          0.006
                    0.000
                            0.024
                                    0.000 <__array_function__
internals>:177(dot)
```

## cProfile run for the track\_voyager command with the Top 10 most called function

```
526292 function calls (513120 primitive calls) in 1.344 seconds
  Ordered by: call count
  ncalls tottime percall cumtime percall filename:lineno(function)
                                      0.000 {method 'append' of 'list'
   38101
           0.004
                   0.000
                             0.004
objects}
   36005
            0.004
                    0.000
                             0.004
                                      0.000
einsumfunc.py:989(_einsum_dispatcher)
21059/20031
             0.033
                      0.000
                               0.087
                                       0.000 {built-in method
numpy.core._multiarray_umath.implement_array_function}
            0.002
                    0.000 0.002
                                    0.000 {built-in method
   18488
builtins.isinstance}
   17452
           0.005
                    0.000 0.005 0.000 {built-in method
builtins.getattr}
                               0.002
                                       0.000 {built-in method
15851/15247 0.002
                      0.000
```

builtins.ler 14126	0.003	0.000	0.003	0.000 {built-in method
builtins.has	sattr}			
10556/4556	0.010	0.000	0.360	<pre>0.000 descriptorlib.py:9(get)</pre>
10000	0.001	0.000	0.001	0.000 multiarray.py:736(dot)
10000	0.006	0.000	0.025	0.000 <array_function< td=""></array_function<>
internals>::	177(dot)			