```
>> ngc_4e5e
Analyze Mars data or Lunar data? Enter "m" for Mars, "l" for Lunar: l
Analyzing Lunar data.

Analyzing File: C:\Projects\Nasa↙
SpaceApps\space_apps_2024_seismic_detection\space_apps_2024_seismic_detection\data\luna ↙
r\test\data\S16_GradeA\xa.s16.00.mhz.1972-09-10HR00_evid00075.mseed
Event Duration (Waveform Duration): 22:50:02
Dominant Frequency: 0.83 Hz
Event Type: High Frequency (HF) Event
Using lunar parameters.
Peak Velocity: 6.98478e-09 m/s
Estimated Energy: 1.15950e-14 Joules
Seismic Moment: 2.18274e-01 N·m
Moment Magnitude: -6.44
Signal-to-Noise Ratio (SNR): 3.88
Coda Q-Factor: 0.00
Spectral Ratio (S-Wave/P-Wave): 0.00
P-wave Arrival: 1972-09-10 13:06:02.186, S-wave Arrival: 1972-09-10 13:14:46.413
Estimated Distance: 3619.66 km
>> ngc_4e5e
Analyze Mars data or Lunar data? Enter "m" for Mars, "l" for Lunar: l
Analyzing Lunar data.

Analyzing File: C:\Projects\Nasa↙
SpaceApps\space_apps_2024_seismic_detection\space_apps_2024_seismic_detection\data\luna ↙
r\test\data\S16_GradeA\xa.s16.00.mhz.1972-11-06HR00_evid00079.mseed
Event Duration (Waveform Duration): 23:49:40
Dominant Frequency: 0.83 Hz
Event Type: High Frequency (HF) Event
Using lunar parameters.
Peak Velocity: 3.49596e-09 m/s
Estimated Energy: 5.74923e-15 Joules
Seismic Moment: 1.09249e-01 N·m
Moment Magnitude: -6.64
Signal-to-Noise Ratio (SNR): 1.67
Coda Q-Factor: 0.00
Spectral Ratio (S-Wave/P-Wave): 0.00
P-wave Arrival: 1972-11-06 04:43:05.712, S-wave Arrival: 1972-11-06 04:43:05.863
Estimated Distance: 1.04 km
ngc_4e5e
Analyze Mars data or Lunar data? Enter "m" for Mars, "l" for Lunar: l
Analyzing Lunar data.

Analyzing File: C:\Projects\Nasa↙
SpaceApps\space_apps_2024_seismic_detection\space_apps_2024_seismic_detection\data\luna ↙
r\test\data\S16_GradeA\xa.s16.00.mhz.1972-11-08HR00_evid00080.mseed
Event Duration (Waveform Duration): 23:47:01
Dominant Frequency: 0.83 Hz
Event Type: High Frequency (HF) Event
```

```
Using lunar parameters.
Peak Velocity: 5.37393e-09 m/s
Estimated Energy: 7.09674e-15 Joules
Seismic Moment: 1.67935e-01 N·m
Moment Magnitude: -6.52
Signal-to-Noise Ratio (SNR): 2.88
Coda Q-Factor: 0.00
Spectral Ratio (S-Wave/P-Wave): 0.00
P-wave Arrival: 1972-11-08 18:51:39.216, S-wave Arrival: 1972-11-08 18:51:40.122
Estimated Distance: 6.25 km
ngc_4e5e
Analyze Mars data or Lunar data? Enter "m" for Mars, "l" for Lunar: l
Analyzing Lunar data.

Analyzing File: C:\Projects\Nasa↙
SpaceApps\space_apps_2024_seismic_detection\space_apps_2024_seismic_detection\data\luna ↙
r\test\data\S16_GradeA\xa.s16.00.mhz.1972-11-14HR00_evid00081.mseed
Event Duration (Waveform Duration): 23:35:02
Dominant Frequency: 0.83 Hz
Event Type: High Frequency (HF) Event
Using lunar parameters.
Peak Velocity: 3.03082e-08 m/s
Estimated Energy: 1.26105e-14 Joules
Seismic Moment: 9.47132e-01 N·m
Moment Magnitude: -6.02
Signal-to-Noise Ratio (SNR): 7.01
Coda Q-Factor: 0.00
Spectral Ratio (S-Wave/P-Wave): 0.02
P-wave Arrival: 1972-11-14 17:42:08.045, S-wave Arrival: 1972-11-14 17:42:08.196
Estimated Distance: 1.04 km
ngc_4e5e
Analyze Mars data or Lunar data? Enter "m" for Mars, "l" for Lunar: l
Analyzing Lunar data.

Analyzing File: C:\Projects\Nasa↙
SpaceApps\space_apps_2024_seismic_detection\space_apps_2024_seismic_detection\data\luna ↙
r\test\data\S16_GradeA\xa.s16.00.mhz.1973-07-31HR00_evid00123.mseed
Event Duration (Waveform Duration): 23:36:43
Dominant Frequency: 0.83 Hz
Event Type: High Frequency (HF) Event
Using lunar parameters.
Peak Velocity: 7.20691e-09 m/s
Estimated Energy: 5.17935e-15 Joules
Seismic Moment: 2.25216e-01 N·m
Moment Magnitude: -6.43
Signal-to-Noise Ratio (SNR): 7.46
Coda Q-Factor: 0.00
Spectral Ratio (S-Wave/P-Wave): 0.01
P-wave Arrival: 1973-07-31 09:59:33.358, S-wave Arrival: 1973-07-31 09:59:33.509
Estimated Distance: 1.04 km
```

```
ngc_4e5e
Analyze Mars data or Lunar data? Enter "m" for Mars, "l" for Lunar: l
Analyzing Lunar data.

Analyzing File: C:\Projects\Nasa↙
SpaceApps\space_apps_2024_seismic_detection\space_apps_2024_seismic_detection\data\luna ↙
r\test\data\S16_GradeA\xa.s16.00.mhz.1974-05-19HR00_evid00146.mseed
Event Duration (Waveform Duration): 23:45:41
Dominant Frequency: 0.91 Hz
Event Type: High Frequency (HF) Event
Using lunar parameters.
Peak Velocity: 7.70313e-09 m/s
Estimated Energy: 1.00196e-14 Joules
Seismic Moment: 2.40723e-01 N·m
Moment Magnitude: -6.41
Signal-to-Noise Ratio (SNR): 5.90
Coda Q-Factor: 0.00
Spectral Ratio (S-Wave/P-Wave): 0.00
P-wave Arrival: 1974-05-19 19:27:16.980, S-wave Arrival: 1974-05-19 19:30:43.018
Estimated Distance: 1422.64 km
ngc_4e5e
Analyze Mars data or Lunar data? Enter "m" for Mars, "l" for Lunar: l
Analyzing Lunar data.

Analyzing File: C:\Projects\Nasa↙
SpaceApps\space_apps_2024_seismic_detection\space_apps_2024_seismic_detection\data\luna ↙
r\test\data\S16_GradeA\xa.s16.00.mhz.1974-11-11HR00_evid00160.mseed
Event Duration (Waveform Duration): 23:49:05
Dominant Frequency: 0.83 Hz
Event Type: High Frequency (HF) Event
Using lunar parameters.
Peak Velocity: 3.39222e-09 m/s
Estimated Energy: 5.69586e-15 Joules
Seismic Moment: 1.06007e-01 N·m
Moment Magnitude: -6.65
Signal-to-Noise Ratio (SNR): 1.38
Coda Q-Factor: 0.00
Spectral Ratio (S-Wave/P-Wave): 0.00
P-wave Arrival: 1974-11-11 17:07:30.148, S-wave Arrival: 1974-11-11 17:07:30.299
Estimated Distance: 1.04 km
ngc_4e5e
Analyze Mars data or Lunar data? Enter "m" for Mars, "l" for Lunar: l
Analyzing Lunar data.

Analyzing File: C:\Projects\Nasa↙
SpaceApps\space_apps_2024_seismic_detection\space_apps_2024_seismic_detection\data\luna ↙
r\test\data\S16_GradeA\xa.s16.00.mhz.1974-12-12HR02_evid00168.mseed
Event Duration (Waveform Duration): 21:35:42
Dominant Frequency: 0.83 Hz
Event Type: High Frequency (HF) Event
```

```
Using lunar parameters.
Peak Velocity: 2.39084e-09 m/s
Estimated Energy: 3.20902e-15 Joules
Seismic Moment: 7.47138e-02 N·m
Moment Magnitude: -6.75
Signal-to-Noise Ratio (SNR): 0.72
Coda Q-Factor: 0.00
Spectral Ratio (S-Wave/P-Wave): 0.01
P-wave Arrival: 1974-12-12 15:56:22.023, S-wave Arrival: 1974-12-12 15:56:22.174
Estimated Distance: 1.04 km
>> ngc_4e5e
Analyze Mars data or Lunar data? Enter "m" for Mars, "l" for Lunar: l
Analyzing Lunar data.

Analyzing File: C:\Projects\Nasa↙
SpaceApps\space_apps_2024_seismic_detection\space_apps_2024_seismic_detection\data\luna ↙
r\test\data\S16_GradeA\xa.s16.00.mhz.1974-12-15HR00_evid00172.mseed
Event Duration (Waveform Duration): 23:49:56
Dominant Frequency: 0.83 Hz
Event Type: High Frequency (HF) Event
Using lunar parameters.
Peak Velocity: 3.88785e-09 m/s
Estimated Energy: 5.82712e-15 Joules
Seismic Moment: 1.21495e-01 N·m
Moment Magnitude: -6.61
Signal-to-Noise Ratio (SNR): 2.44
Coda Q-Factor: 0.00
Spectral Ratio (S-Wave/P-Wave): 0.00
P-wave Arrival: 1974-12-15 09:22:30.104, S-wave Arrival: 1974-12-15 09:27:21.123
Estimated Distance: 2009.42 km
>> ngc_4e5e
Analyze Mars data or Lunar data? Enter "m" for Mars, "l" for Lunar: l
Analyzing Lunar data.

Analyzing File: C:\Projects\Nasa↙
SpaceApps\space_apps_2024_seismic_detection\space_apps_2024_seismic_detection\data\luna ↙
r\test\data\S16_GradeA\xa.s16.00.mhz.1974-12-25HR00_evid00174.mseed
Event Duration (Waveform Duration): 23:51:11
Dominant Frequency: 0.83 Hz
Event Type: High Frequency (HF) Event
Using lunar parameters.
Peak Velocity: 3.06986e-09 m/s
Estimated Energy: 5.60803e-15 Joules
Seismic Moment: 9.59333e-02 N·m
Moment Magnitude: -6.68
Signal-to-Noise Ratio (SNR): -0.50
Coda Q-Factor: 0.00
Spectral Ratio (S-Wave/P-Wave): 0.00
P-wave Arrival: 1974-12-25 15:16:51.974, S-wave Arrival: 1974-12-25 21:29:25.634
Estimated Distance: 154346.70 km
```

```
>> ngc_4e5e
Analyze Mars data or Lunar data? Enter "m" for Mars, "l" for Lunar: l
Analyzing Lunar data.

Analyzing File: C:\Projects\Nasa↙
SpaceApps\space_apps_2024_seismic_detection\space_apps_2024_seismic_detection\data\luna ↙
r\test\data\S16_GradeA\xa.s16.00.mhz.1975-02-19HR00_evid00180.mseed
Event Duration (Waveform Duration): 23:46:30
Dominant Frequency: 0.83 Hz
Event Type: High Frequency (HF) Event
Using lunar parameters.
Peak Velocity: 6.11203e-09 m/s
Estimated Energy: 4.72603e-15 Joules
Seismic Moment: 1.91001e-01 N·m
Moment Magnitude: -6.48
Signal-to-Noise Ratio (SNR): 0.93
Coda Q-Factor: 0.00
Spectral Ratio (S-Wave/P-Wave): 0.01
P-wave Arrival: 1975-02-19 14:04:18.367, S-wave Arrival: 1975-02-19 14:04:18.518
Estimated Distance: 1.04 km
>> ngc_4e5e
Analyze Mars data or Lunar data? Enter "m" for Mars, "l" for Lunar: l
Analyzing Lunar data.

Analyzing File: C:\Projects\Nasa↙
SpaceApps\space_apps_2024_seismic_detection\space_apps_2024_seismic_detection\data\luna ↙
r\test\data\S16_GradeA\xa.s16.00.mhz.1975-03-26HR00_evid00186.mseed
Event Duration (Waveform Duration): 23:46:06
Dominant Frequency: 0.83 Hz
Event Type: High Frequency (HF) Event
Using lunar parameters.
Peak Velocity: 7.99819e-09 m/s
Estimated Energy: 2.50645e-14 Joules
Seismic Moment: 2.49943e-01 N·m
Moment Magnitude: -6.40
Signal-to-Noise Ratio (SNR): -12.87
Coda Q-Factor: 0.00
Spectral Ratio (S-Wave/P-Wave): 0.00
P-wave Arrival: 1975-03-26 01:25:37.500, S-wave Arrival: 1975-03-26 01:25:37.651
Estimated Distance: 1.04 km
>> ngc_4e5e
Analyze Mars data or Lunar data? Enter "m" for Mars, "l" for Lunar: l
Analyzing Lunar data.

Analyzing File: C:\Projects\Nasa↙
SpaceApps\space_apps_2024_seismic_detection\space_apps_2024_seismic_detection\data\luna ↙
r\test\data\S16_GradeA\xa.s16.00.mhz.1975-03-26HR00_evid00186.mseed
Event Duration (Waveform Duration): 23:46:06
Dominant Frequency: 0.83 Hz
Event Type: High Frequency (HF) Event
```

```
Using lunar parameters.
Peak Velocity: 7.99819e-09 m/s
Estimated Energy: 2.50645e-14 Joules
Seismic Moment: 2.49943e-01 N·m
Moment Magnitude: -6.40
Signal-to-Noise Ratio (SNR): -12.87
Coda Q-Factor: 0.00
Spectral Ratio (S-Wave/P-Wave): 0.00
P-wave Arrival: 1975-03-26 01:25:37.500, S-wave Arrival: 1975-03-26 01:25:37.651
Estimated Distance: 1.04 km
>> ngc_4e5e
Analyze Mars data or Lunar data? Enter "m" for Mars, "l" for Lunar: l
Analyzing Lunar data.

Analyzing File: C:\Projects\Nasa↙
SpaceApps\space_apps_2024_seismic_detection\space_apps_2024_seismic_detection\data\luna ↙
r\test\data\S16_GradeA\xa.s16.00.mhz.1977-04-17HR00_evid00249.mseed
Event Duration (Waveform Duration): 23:49:44
Dominant Frequency: 0.83 Hz
Event Type: High Frequency (HF) Event
Using lunar parameters.
Peak Velocity: 7.80899e-09 m/s
Estimated Energy: 7.69639e-15 Joules
Seismic Moment: 2.44031e-01 N·m
Moment Magnitude: -6.41
Signal-to-Noise Ratio (SNR): 3.78
Coda Q-Factor: 0.00
Spectral Ratio (S-Wave/P-Wave): 0.00
P-wave Arrival: 1977-04-17 23:47:44.705, S-wave Arrival: 1977-04-17 23:47:44.856
Estimated Distance: 1.04 km
>> ngc_4e5e
Analyze Mars data or Lunar data? Enter "m" for Mars, "l" for Lunar: l
Analyzing Lunar data.

Analyzing File: C:\Projects\Nasa↙
SpaceApps\space_apps_2024_seismic_detection\space_apps_2024_seismic_detection\data\luna ↙
r\test\data\S16_GradeA\xa.s16.00.mhz.1977-06-02HR00_evid00255.mseed
Event Duration (Waveform Duration): 23:08:51
Dominant Frequency: 0.93 Hz
Event Type: High Frequency (HF) Event
Using lunar parameters.
Peak Velocity: 6.72776e-08 m/s
Estimated Energy: 1.27789e-13 Joules
Seismic Moment: 2.10242e+00 N·m
Moment Magnitude: -5.78
Signal-to-Noise Ratio (SNR): 17.13
Coda Q-Factor: 0.00
Spectral Ratio (S-Wave/P-Wave): 0.05
P-wave Arrival: 1977-06-02 14:31:51.258, S-wave Arrival: 1977-06-02 17:35:09.900
Estimated Distance: 75943.00 km
```

```
>>
```