

SEISMOGRAPH

File Formats

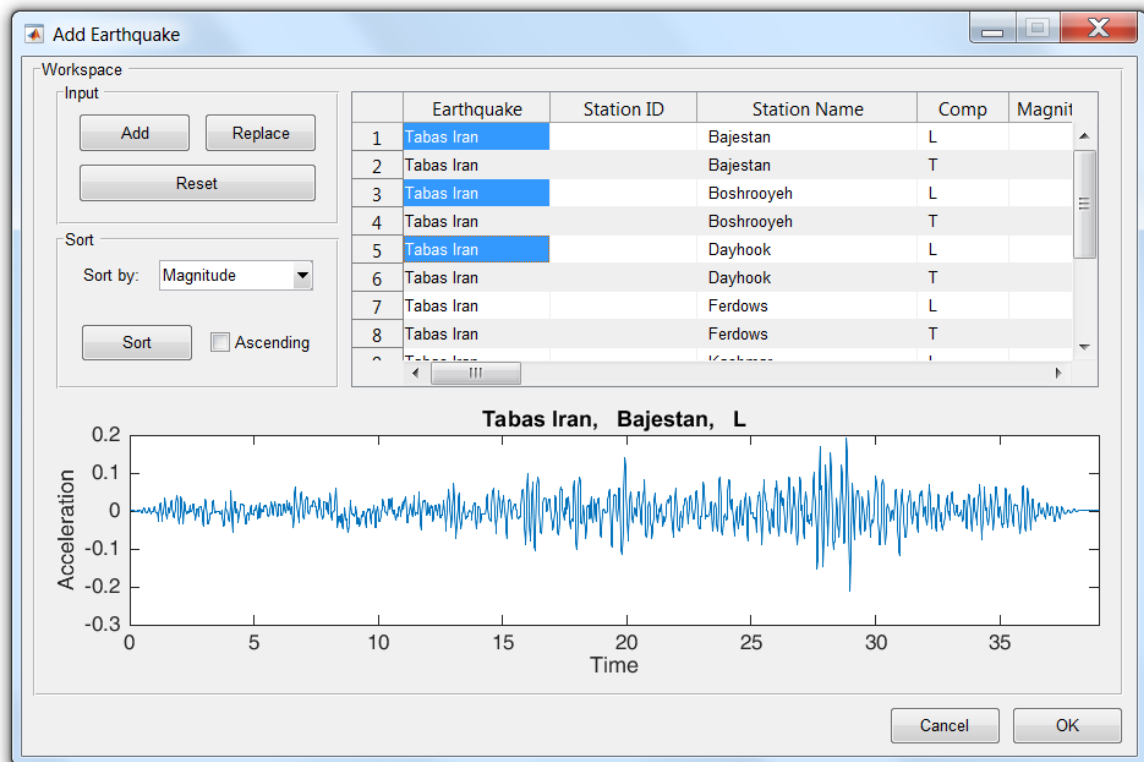
SMDA Tool File Formats

Supported file formats are listed in the following Table.

| | | |
|---|---|----------------------|
| Load NGA FlatFile | MAT Files (*.mat) | |
| Load Force Vector (SDF Tool) | Text Files (*.txt) | |
| Save EQ | Text Files (*.txt) | |
| Save Database | Seismograph Earthquake Database (*.sed) | |
| Load EQ | SG-EQD Files (*.sed) | |
| | Text Files (*.txt) | |
| | data Files (*.dat) | |
| | AT2 Files (*.AT2) | |
| | NS Files (*.NS) | |
| | EW Files (*.EW) | |
| | UD Files (*.UD) | |
| Auto Import | ASC Files (*.ASC) | |
| | PEER (*.AT2) | |
| | K-Net (*.NS, *.EW, *.UD) | |
| Export Data | BHRC (*.ASC) | |
| | Force Vector (SDF Tool) | Text Files (*.txt) |
| | Trimmed EQ. | Text Files (*.txt) |
| | Design Spectrum | Excel Files (*.xlsx) |
| Text Files (*.txt) | | |

1. SG-EQD Files (*.sed)

Seismograph Earthquake Database file. Multiple selections are enabled.



2. Text Files (*.txt)

Space or Tab delimited "Time and Acceleration (g)" without any header.

```

0.000000 0.001656
0.020000 0.005453
0.040000 0.007242
0.060000 0.003412
0.080000 0.000657
0.100000 0.002645
0.120000 0.010092
0.140000 0.009961
0.160000 -0.003124
0.180000 -0.006525
0.200000 0.003635
0.220000 0.008488
0.240000 0.005314
0.260000 -0.003319
0.280000 -0.000943

```

3. data Files (*.dat)

Includes conventional “Time and Acceleration (g)” format and “Multiple Acceleration (g) per Line” format with appropriate header.

```
The Imperial Valley (USA) earthquake of October 15, 1979.
Source: PEER Strong Motion Database
Recording station: USGS STATION 5115
Frequency range: 0.1-40.0 Hz
Time[s] Accel[g]
0.0000-0.0002
0.0100-0.0002
0.0200-0.0002
0.0300-0.0002
0.0400-0.0003
0.0500-0.0004
0.0600-0.0005
0.0700-0.0005
0.0800-0.0005
0.0900-0.0005
```

```
Original File : '3154.V1', Earthquake Name : bam
Unit : G ,NPTS : 6656 ,dt : 0.005, Component No : 3
Station Name : Bolvard, Station Altitude : 2088
Date : 1382/10/5 (2003/12/26), Time : 01:56:56
Distance : 226.2 km
0.000826292 0.000826292 0.000826292 0.000826292 0.000826292
0.000338012 0.000338012 0.000338012 -0.000150268 -0.000150268
-0.000638548 -0.000638548 -0.000638548 -0.000638548 -0.000638548
-0.000638548 -0.000638548 -0.000638548 -0.000638548 -0.000150268
-0.000150268 -0.000150268 -0.000150268 -0.000150268 -0.000150268
-0.000150268 -0.000150268 -0.000150268 -0.000150268 -0.000150268
-0.000150268 -0.000150268 -0.000150268 -0.000150268 -0.000150268
0.000338012 0.000338012 0.000338012 0.000826292 0.000826292
0.000826292 0.000826292 0.000826292 0.000826292 0.000826292
0.000826292 0.000338012 0.000826292 0.000338012 0.000826292
```

4. AT2 Files (*.AT2)

PEER NGA STRONG MOTION DATABASE RECORD with 2 different headers.

```
PEER NGA STRONG MOTION DATABASE RECORD
Chi-Chi Taiwan, 9/20/1999, TCU051, E
ACCELERATION TIME SERIES IN UNITS OF G
NPTS= 18000, DT= .0050 SEC,
.2193271E-03 .2192234E-03 .2191184E-03 .2190135E-03 .2189122E-03
.2188183E-03 .2187098E-03 .2185954E-03 .2185079E-03 .2184307E-03
.2183141E-03 .2181798E-03 .2180790E-03 .2179663E-03 .2178402E-03
.2177367E-03 .2176845E-03 .2175442E-03 .2172707E-03 .2171355E-03
.2172441E-03 .2173205E-03 .2170630E-03 .2164659E-03 .2161907E-03
.2164483E-03 .2165513E-03 .2165054E-03 .2165307E-03 .2162205E-03
.2156891E-03 .2156554E-03 .2162138E-03 .2162340E-03 .2154496E-03
.2149570E-03 .2151138E-03 .2152647E-03 .2149053E-03 .2146965E-03
.2147665E-03 .2145276E-03 .2136976E-03 .2133585E-03 .2144863E-03
.2151383E-03 .2139988E-03 .2133134E-03 .2144631E-03 .2156030E-03
.2153280E-03 .2142285E-03 .2138288E-03 .2137375E-03 .2132531E-03
```

```

PEER NGA STRONG MOTION DATABASE RECORD
CAPE MENDOCINO 04/25/92 1806, SHELTER COVE AIRPORT, 000 (CDMG STATION 89530)
ACCELERATION TIME HISTORY IN UNITS OF G
1800      0.0200      NPTS, DT
-0.231944E-02  0.491636E-03  0.824177E-03  0.177574E-02  0.184781E-02
-0.417469E-02 -0.937363E-02 -0.585389E-02  0.105474E-02  0.520889E-02
0.637675E-02  0.215614E-02 -0.162089E-02 -0.120354E-02 -0.247237E-02
-0.141047E-03  0.377315E-02  0.529741E-02  0.195943E-02 -0.367635E-02
0.194592E-02  0.500499E-02 -0.258502E-02 -0.232766E-02  0.301136E-02
0.701462E-03  0.259296E-02  0.232768E-02 -0.255495E-02 -0.162911E-02
0.778771E-03 -0.529149E-02 -0.516854E-02 -0.123395E-02 -0.454438E-04
0.716363E-02  0.498423E-02 -0.120674E-02 -0.713102E-02 -0.691452E-02
-0.466586E-02  0.408155E-02  0.115292E-01  0.269436E-02  0.505266E-02
0.147322E-02 -0.261272E-02 -0.520005E-02 -0.559749E-02  0.261137E-02
0.315737E-02  0.255940E-02 -0.207299E-02 -0.167844E-02 -0.345178E-03

```

5. NS, EW & UD Files (*.NS / *.EW / *.UD)

Includes standard K-Net “Multiple Acceleration (gal) per Line” format.

```

Origin Time      2016/04/14 21:26:00
Lat.             32.7
Long.            130.8
Depth. (km)     10
Mag.             6.4
Station Code     EHM001
Station Lat.     33.9810
Station Long.    133.5490
Station Height (m) 63
Record Time      2016/04/14 21:28:03
Sampling Freq(Hz) 100Hz
Duration Time(s) 60
Dir.             N-S
Scale Factor     7845(gal)/8223790
Max. Acc. (gal) 1.195
Last Correction  2016/04/14 21:28:03
Memo.
-3090  -3090  -3071  -3051  -3037  -3036  -3051  -3071
-3094  -3122  -3152  -3176  -3207  -3246  -3277  -3296
-3304  -3299  -3295  -3287  -3268  -3245  -3227  -3215
-3204  -3194  -3180  -3157  -3138  -3118  -3090  -3064
-3040  -3003  -2972  -2959  -2953  -2952  -2959  -2971
-2992  -3017  -3036  -3049  -3059  -3064  -3068  -3078
-3088  -3088  -3087  -3098  -3099  -3086  -3071  -3071
-3068  -3060  -3056  -3061  -3060  -3056  -3057  -3052

```

6. ASC Files (*.ASC)

BHRC “One Acceleration (gal) per Line” format.

```

EVENT NAME: IR201711121818
EVENT ID: IR201711121818
EVENT DATE YYYYMMDD: 20171112
EVENT TIME HHMMSS: 181816
EVENT LATITUDE DEGREE: 34.81
EVENT LONGITUDE DEGREE: 45.91
EVENT DEPTH KM: 18
HYPOCENTER REFERENCE: BHRC
MAGNITUDE W: 7.3
MAGNITUDE W REFERENCE: BHRC
MAGNITUDE L:
MAGNITUDE L REFERENCE: BHRC
FOCAL MECHANISM:
NETWORK: I1
STATION CODE: AAD
STATION NAME: Abadan
STATION LATITUDE DEGREE: 30.3568
STATION LONGITUDE DEGREE: 48.29
STATION ELEVATION M: 20
LOCATION:
SENSOR DEPTH M: 0
VS30 M/S:
SITE CLASSIFICATION EC8:
MORPHOLOGIC CLASSIFICATION:
EPICENTRAL DISTANCE KM: 541.9974
EARTHQUAKE BACKAZIMUTH DEGREE: 336.287
DATE TIME FIRST SAMPLE YYYYMMDD HHMMSS:
DATE TIME FIRST SAMPLE PRECISION:
SAMPLING INTERVAL S: 0.005
NDATA: 9362
DURATION S: 46.81
STREAM: HNE
UNITS: cm/s^2
INSTRUMENT: sensor = Unknown [Unknown] | digitizer = Unknown [Unknown]
INSTRUMENT ANALOG/DIGITAL: D
INSTRUMENTAL FREQUENCY HZ:
INSTRUMENTAL DAMPING:
FULL SCALE G:
N BIT DIGITAL CONVERTER:
PGA CM/S^2: 8.4248
TIME PGA S: 13.925
BASELINE CORRECTION: BASELINE NOT REMOVED
FILTER TYPE:
FILTER ORDER:
LOW CUT FREQUENCY HZ:
HIGH CUT FREQUENCY HZ:
LATE/NORMAL TRIGGERED: NT
DATABASE VERSION: IRANCA 1.0
HEADER FORMAT: IRANCA 1.0
DATA TYPE: ACCELERATION
PROCESSING: converted to cm/s^2
DATA TIMESTAMP YYYYMMDD HHMMSS:
DATA LICENSE: http://smd.bhrc.ac.ir/Portal/en/pages/show/copyrightsen & http://sm
DATA CITATION: https://ismn.bhrc.ac.ir
DATA CREATOR: ISMN, BHRC
ORIGINAL DATA MEDIATOR CITATION: Iran Strong Motion Network http://ismn.bhrc.ac.i
ORIGINAL DATA MEDIATOR: Iran Strong Motion Network http://ismn.bhrc.ac.ir/en
ORIGINAL DATA CREATOR CITATION: Iran Strong Motion Network http://ismn.bhrc.ac.ir
ORIGINAL DATA CREATOR: network: I1 (Iran Strong Motion Network); owner: Road,Hous
USER1:
USER2:
USER3:
USER4: The original file number from BHRC is 7342.V1
USER5: - Orientation: 90
0.246235
0.727160
0.246235
0.246235
0.246235
0.246235
0.246235
0.246235
0.246235
0.246235
0.246235

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SEISMOGRAPH

earthquake engineering software