SEISMOGRAPH

File Formats
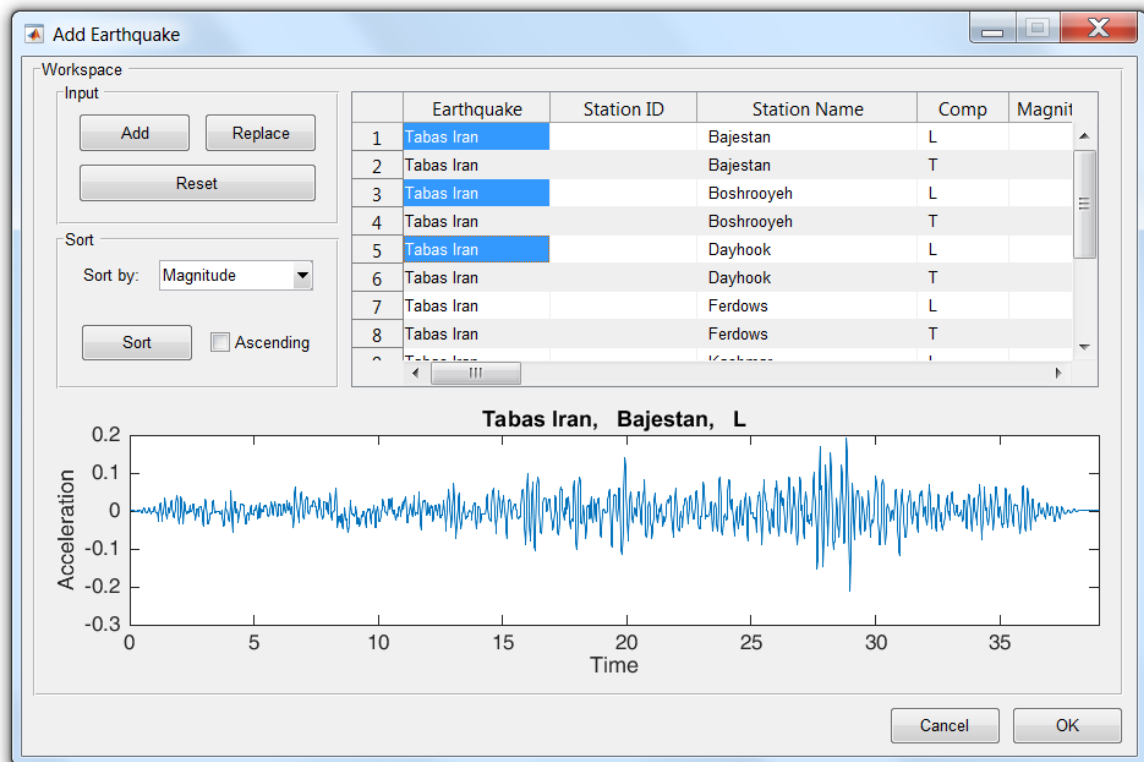
MDFA Tool File Formats

Supported file formats are listed in the following Table.

Load & Save Project	Seismograph MDFA Project (*.smp)	
Load & Save Simulation	Seismograph MDFA Simulation File (*.sms)	
Import EQ	SG-EQD Files (*.sed)	
	Text Files (*.txt)	
	data Files (*.dat)	
	AT2 Files (*.AT2)	
	NS Files (*.NS)	
	EW Files (*.EW)	
	UD Files (*.UD)	
	ASC Files (*.ASC)	
Analysis Case Data	Save	Seismograph MDFA AnalysisCase Data (*.sma)
	Load	Seismograph MDFA AnalysisCase Data (*.sma)
		Seismograph MDFA Simulation File (*.sms)

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.

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', Eartquake 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    .2142295E-03    .2138328E-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
```

SEISMOGRAPH

earthquake engineering software