

This archive contains the data used in the article “*Can we trust high-frequency content in strong-motion database signals? Impact of housing, coupling and installation depth of seismic sensors*” (by Fabrice HOLLENDER, Zafeiria ROUMELIOTI, Emeline MAUFROY, Paola TRAVERSA and Armand MARISCAL published in “*Seismological Research Letter*”, 2020) that are not available on other web-service data repositories.

Data are given in ascii file (one file for each event and each sensors, gathering the 3 components). The files start by a header that provide several metadata as shown in the following example:

```
# Station Name: CS1_buried
# Event Date: 2016-01-26 20:02:04.000
# Event Latitude (°): 44.1500
# Event Longitude (°): 6.1600
# Event Depth (km): 2.0
# Event M: 2.3
# Recording first sample time: 2016-01-26 19:57:15.000
# Recording sampling frequency [Hz]: 100.000000
# Number of sample within recording: 60001
# Recording unit: mm/s
# P wave arrival time (s relative to recording first sample): 300.130
# S wave arrival time (s relative to recording first sample): 308.060
# EW    NS    UD
-2.159092E-03  -3.601120E-04  -4.915934E-04
 1.258591E-04  -7.691337E-04  5.430525E-06
 1.687362E-04  -1.283642E-03  -4.297768E-04
-6.862984E-04  -1.352021E-03  -9.401640E-04
-5.755679E-04  1.981697E-04   1.691588E-04
-4.723304E-04  -7.868122E-05  -3.032208E-04
 7.219719E-04  -1.264050E-03  -6.051926E-04
...
```

The directories *AR...*, *AS...*, *CR1...*, *CS1...* and *CS2_site_data* contain the data used to analyse the “slab effect” on the different sites (eg. Fig. 3 in the article). The subdirectories name correspond to the dates of the analysed events. The name of the data files themselves integrate the date of the event as well as the sensor name (mentioning “slab” or “buried”).

The directories *CR2_0_3_site_data* and *CR2_0_45_site_data* contain the data used to analyse the “shallow depth effect” for the two analysed depth (-3 m and -45 m) on the CR2 site (eg. Fig. 4 in the article). The name of the data files themselves integrate the date of the event as well as the sensor depth (0 for surface, -3 or 45 m).

For the Argostoli data, we recorded and used small very local events that was not referenced in seismicity catalogs. Inb that case, the information related to event (latitude, longitude, magnitude...) are set to “NaN” (not-a-number).

The provided data are raw data, just multiplied by a scalar number to convert them in physical unit (here, mm/s). The data are coming from broadband seismometers and can present very “noisy” time history, especially at very low frequency in comparison with the “useful signal” at higher frequency. This is especially true for the Cadarache sites (CR1, CR2, CS1, CS2) where the seismicity is much lower than on Argostoli sites (AR and AS). **It is therefore essential to apply a relevant frequency filter to visualize data.**

Moreover, the provided times histories (quite long to allow noise analysis) sometimes show 2 or more events. **The information P and S wave arrival time in the header** (given in seconds with respect to the beginning of the provided signal) **is important to locate the relevant event on the time history** (the one used in the article and that corresponds to the metadata in the header).