%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

%%% README\_SA.txt %%%

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

Description of the field of the parametric table CI-SA\_Flatfile.csv

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

%%% Field Description %%%

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

- ID\_EVENT ID of the event according to the Format: YYMMDDhhmmss

- ID\_INGV ID of the event according to INGV (web)

- ID\_ESM ID of the event according to ESM (web)

- LAT\_EV Latitude of the Event [deg]

- LON\_EV Longitude of the Event [deg]

- DEPTH\_EV Depth of the Event [km]

- Ml Local magnitude

- Mw Moment magnitude

- STR\_DRP Stress Drop [MPa] (Morasca et al. 2023)

- K\_SOURCE Kappa parameter of the source [sec] (Morasca et al. 2023)

- NET\_CODE Network code

- STA\_CODE Station code

- INST\_CODE Instrument code

- LAT\_STA Latitude of the station [deg]

- LON\_STA Longitude of the station [deg]

- ALT\_STA Altitude of the station [km]

- EPI\_DIST Epicentral distance [km]

- IPO\_DIST Hypocentral distance [km]

- AZI Azimuth distance [deg]

- EC8 Soil classification according to EuroCode 8 (CEN, 2004)

- JB\_DIST Joyner-Boore distance [km]

- VS30\_MEAS Average Shear-wave velocity [m/sec] in the upper 30 m

- VS30\_SLOPE Average Shear-wave velocity [m/sec] from topographic slope according to Allen and Wald (2009)

- VS30\_MORI Average Shear-wave velocity [m/sec] from Mori et al. (2020)

- KAPPA\_GIT Kappa parameter [sec] (near-site high frequency attenuation) computed from GIT amplification functions by Morasca et al. (2023)

- KAPPA\_AUTO Kappa parameter [sec] computed according automatic procedure by Lanzano et al. (2022)

- SITE\_REF\_06 Flag of 6 reference sites according to Morasca et al. (2023) [ 0 = No reference site; 1 = Reference site]

- SITE\_REF\_36 Flag of 36 reference sites according to Lanzano et al. (2020) [ 0 = No reference site; 1 = Reference site]

- L2L Flag for the events clusters proposed by Sgobba et al. (2021) [0 = Background seismicity; from 1 to 6 ---> Spatio-temporal clusters]

- P2P Flag for the propagation term [Cluster number - destination cell in x,y coordinates]

- PGA\_VERT Vertical component of PGA [cm/s^2]

- PGA\_NS N-S component of PGA [cm/s^2]

- PGA\_EW E-W component of PGA [cm/s^2]

- PGV\_VERT Vertical component of PGV [cm/s]

- PGV\_NS N-S component of PGV [cm/s]

- PGV\_PGV\_EW E-W component of PGV [cm/s]

- T2\_00\_VERT Vertical component of SA [cm/s] computed at 2 sec

- T2\_00\_NS N-S component of SA [cm/s] computed at 2 sec

- T2\_00\_EW E-W component of SA [cm/s] computed at 2 sec

...

...

...

- T0\_04\_VERT Vertical component of SA [cm/s] computed at 0.04 sec

- T0\_04\_NS N-S component of SA [cm/s] computed at 0.04 sec

- T0\_04\_EW E-W component of SA [cm/s] computed at 0.04 sec

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

%%% Details of the table %%%

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

- List of 6 Ref. sites:

'LSS' - 'MNF' - 'SLO' - 'SNO' - 'SDM' - 'NRN'

- List of 36 Ref. sites:

'ANT' - 'APEC' - 'ATLO' - 'ATPI' - 'ATVA' - 'ATVO'

'BGR' - 'CAFI' - 'CAFR' - 'CIGN' - 'CSC' - 'CSO1'

'FIAM'- 'FMG' - 'GRN' - 'GUAR' - 'LSS' - 'MMP1'

'MNF' - 'MVB' - 'MZ102'- 'MZ31 - 'NRN' - 'ORC'

'PAN' - 'POFI' - 'PSC' - 'RM03' - 'SACR' - 'SACS'

'SDM' - 'SGTA' - 'SLO' - 'SNAL' - 'SNO' - 'TRIV'

- List of periods [sec]:

'PGA' - 'PGV' - '2.00' - '1.89' - '1.79' - '1.69' - '1.59' - '1.49' - '1.41'

'1.33' - '1.27' - '1.19' - '1.12' - '1.06' - '1.00' - '0.94' - '0.89' - '0.84'

'0.79' - '0.75' - '0.71' - '0.67' - '0.63' - '0.60' - '0.57' - '0.53' - '0.50'

'0.47' - '0.45' - '0.42' - '0.40' - '0.38' - '0.36' - '0.34' - '0.32' - '0.30'

'0.28' - '0.27' - '0.25' - '0.24' - '0.22' - '0.21' - '0.20' - '0.19' - '0.18'

'0.17' - '0.16' - '0.15' - '0.14' - '0.13' - '0.1263' - '0.1192' - '0.1125' - '0.1062'

'0.10' - '0.0946' - '0.0894' - '0.0843' - '0.0796' - '0.0752' - '0.0701' - '0.0670' - '0.0633'

'0.0597' - '0.0563' - '0.0532' - '0.0502' - '0.0474' - '0.0447' - '0.0422' - '0.0400'

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

%%% References %%%

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

- Allen, T. I., Wald, D. J. (2009).

On the Use of High-Resolution Topographic Data as a Proxy for Seismic Site Conditions (VS30).

Bull. Seismol. Soc. Am., 99 (2A), 935–943. https://doi.org/10.1785/0120080255.

- CEN 1998-1 (2004).

Eurocode 8: Design of structures for earthquake resistance – Part 1: General rules, seismic actions and rules for buildings [Authority: The European Union Per Regulation 305/2011, Directive 98/34/EC, Directive 2004/18/EC].

- Lanzano, G., Felicetta, C., Pacor, F., Spallarossa, D. and Traversa, P. (2020).

Methodology to identify the reference rock sites in regions of medium-to-high seismicity: an application in Central Italy.

Geophys. J. Int., 222 (3), 2053-2067. https://doi.org/10.1093/gji/ggaa261.

- Lanzano, G., Felicetta, C., Pacor, F., Spallarossa, D. and Traversa, P. (2022). Generic-To-Reference Rock Scaling Factors for Seismic Ground Motion in Italy. Bull. Seismol. Soc. Am., 112 (3), 1583-1606. https://doi.org/[10.1785/0120210063](https://doi.org/10.1785/0120210063).

- Morasca, P., D'Amico, M., Sgobba, S., Lanzano, G., Colavitti, L., Pacor, F. and Spallarossa, D. (2023).

Empirical correlations between a FAS nonergodic ground motion model and a GIT derived model for Central Italy.

Geophys. J. Int., 233, 51-68. https://doi.org/10.1093/gji/ggac445.

- Mori, F., Mendicelli, A., Moscatelli, M., Romagnoli, G., Peronace, E. and Naso, G. (2020).

A new Vs30 map for Italy based on the seismic microzonation dataset.

Eng. Geology, 275, 105745, ISSN 0013-7952. https://doi.org/10.1016/j.enggeo.2020.105745.

- Sgobba, S., Lanzano, G., and Pacor, F. (2021).

Empirical nonergodic shaking scenarios based on spatial correlation models: An application to Central Italy.

Eng. Struct. Dyn., 50(1), 60-80. https://doi.org/10.1002/eqe.3362.