

## Microtremors Data Archive of the 2015 and 2018 NSET – OGS Surveys in Nepal

Franco Pettenati<sup>1</sup>, Sarmila Paudyal<sup>2</sup>, Denis Sandron<sup>1</sup>, Sharad Wagle<sup>2</sup>, Claudio Cravos<sup>3</sup>, Massimo Giorgi<sup>1</sup>, Surya Narayan Shrestha<sup>2</sup>, Dev Khumar Maharjan<sup>2</sup>

E-mail: [fpettenati@ogs.it](mailto:fpettenati@ogs.it)

<sup>1</sup>National Institute of Oceanography and Applied Geophysics – OGS (Trieste, Italy)

<sup>2</sup>National Society for Earthquake Technology – NSET (Kathmandu, Nepal)

<sup>3</sup> Independent

### Abstract

This report describes the datasets of microtremor surveys on the two 2015 and 2018 missions of the National Institute of Oceanography and Applied Geophysics – OGS conducted with National Society for Earthquake Technology – NSET in Nepal at the Kathmandu Basin (2015, 2018) and at two locations: Bharatpur and Damauli (2018). The two institutions involved partly supported the surveys. This work was also partially supported by the FVG Region (Friuli Venezia Giulia - Italy), Regional Law 19/2000, International Development Cooperation and Partnership Activities 2014 – 2017, Decree no. 1134/SG 11.27.2017, pre-number 1010, project IN-EPAL (Iniziativa di Empowerment e Protezione Ambientale Locale). The archive consists of point measurements of seismic noise for Horizontal Vertical Spectral Ratio (HVSr) analysis and array measurements for seismic wave analysis.

### Description

The description of the data and the resulting analyses can be found in the present articles: Sandron et al. (2016; 2019), Trevisani et al. (2021) and Pettenati et al. (2023). The dataset also includes a report on the 2015 survey (**Pettenati et al. 2016** - hdl: 20.500.14083/23063) written shortly after the mission (folder Report2015). The other two folders are the data bins.

**Survey2015** folder: This folder is divided into the following subfolders:

**GrillaDB**, which contains the data recorded by Tromino (**HVSrTraces**) and Rosina (**DispersionCurves**). In **HVSrTraces** are all data from the 19, 1 km grid in the Lalitpur area and

all data measured in the central and northern areas of Kathmandu basin. The files for Grilla (Moho equipment) are the two with the extension “.ass” and “.trc”. The other files are preliminary elaborations. During the 2015 survey the authors also recorded HVSR in some buildings (\*).

**DispersionCurves** contains the data in “.trc” format of twelve arrays recorded by Rosina (Moho) in the Lalitpur area and in the central and northern areas of Kathmandu basin.

**HVSR Trillium**, containing five PDF files with the HVSR of the 1 km grid in the Lalitpur area recorded by Trillium 20 s (Nanometrics).

In addition, there are two Excel files with the GPS - coordinates of grid 1 km in the Lalitpur area from the NSET-OGS 2015 survey (CoordGrid1km), and all location from the NSET-OGS survey and the Paudyal et al. (2013) survey (CoordinateWGS84\_GridPoints).

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**Apeiron-house:** (Uccha Marg 48, Kathmandu 44600, Baluwatal, Nepal) survey in Apeiron building (); three folders, GRILLA37 ground floor, GRILLA38 first floor, GRILLA39 second floor.

**Downtown-building42floors:** survey of the building Downtown 14<sup>th</sup> floor in Lalitpur. See the files in the **Cumulative folder**. DTPalace, HVSR on the ground outside the building. The other folders correspond to Basament and floors 4, 8, 12, 14.

**MotherHood:** (P9V4+79Q, Jyoti Nagar Rd, Budhanilkantha 44600, Nepal) survey on the three floors of the main building, GRILLA02 ground floor, GRILLA03 first floor, GRILLA04 second floor, GRILLA05 outside the building.

**TimeCollege-building:** (P84G+9HM, Kathmandu 44600, Nepal) survey on Time College school building near Dilli Bazar Sadak. Measurements on ground floor and floors 2, 4, 6, 8.

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**Survey2018** folder: it is divided in three subfolders for the places identified for this survey; **Bharatpur**, **Damauli**, and **Kathmandu**. In each folder, the sites detected are grouped in subfolders with the name of the site. For each site-folder, you can find the files in DSS Cube format (GIPP) with the extension “.AAS”, “.844”, “.845”, the code of the Cube (GIPP) used and

files “.pri0” (Z), “.pri1” (NS), “.pri2” (EW) components for the package (Wathelet 2005). There are also some maps and photos in the folders to help the users identify the sites. There is also a short report for Damauli. In Bharatpur folder there is also a file Excel with the coordinates and periods of the sites. For Damauli there is a small orientation report on the site where measurements were made.

## Bibliography

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