



## PARAMETRIC DATA COLLECTION FROM PRE-WWSSN SEISMOLOGICAL BULLETINS

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The contribution illustrates the large set of station parametric data (e.g., phase arrival times, amplitude and period measurements, etc.) that has been digitized based on a multitude of early instrumental paper-based seismological bulletins. Such bulletins contain fundamental parametric data for relocating and reassessing the magnitude of earthquakes that occurred between 1904 and 1970. The digitalization and the organization of the parametric data into the International Seismological Centre (ISC, [www.isc.ac.uk](http://www.isc.ac.uk)) database is carried out in the context of the ISC-GEM Global Earthquake Instrumental Catalogue project funded by the GEM Foundation ([www.globalquakemodel.org](http://www.globalquakemodel.org)) and a few commercial companies. The parametric data obtained and processed during this work fills a large gap in electronic bulletin data availability. This new dataset complements the data freely available from the International Seismological Centre (ISC) bulletin starting in 1964.

This work is one of the key tasks for producing the ISC-GEM Global Instrumental Catalogue (Storchak *et al.*, 2013), which starts with large earthquakes that occurred at the beginning of last century. To facilitate earthquake relocation, different sources have been used to retrieve body-wave arrival times. These were entered into the database with the support of optical character recognition methods (e.g., ISS bulletins, 1918-1959) or manually (e.g., BAAS bulletins, 1913-1917).

With respect to the amplitude-period data necessary to re-compute magnitude, we used the worldwide collection of paper-based bulletins stored at the ISC and other institutions and entered relevant station parametric data into the database.

The original paper bulletins were scanned by INGV-SISMOS and made available at the <http://storing.ingv.it/bulletins/> website.

These newly available digital instrumental data are significant for any future study considering earthquakes that occurred in the pre-WWSSN period.

## REFERENCES

Storchak, D.A., D. Di Giacomo, I. Bondár, E. R. Engdahl, J. Harris, W.H.K. Lee, A. Villaseñor and P. Bormann, 2013. Public Release of the ISC-GEM Global Instrumental Earthquake Catalogue (1900-2009). *Seism. Res. Lett.*, 84, 5, 810-815.

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