



## OBSERVATORI FABRA SEISMIC ARCHIVE: CURRENT STATUS

Maria Teresa MERINO<sup>1</sup> and Tana ANDRADES<sup>2</sup>

Here we aim to expose the status and projects related to the *Fabra Observatory* seismic archive. This observatory is a relatively small and independent institution placed in Barcelona (Spain) with a limited budget and personnel but with a significant historical scientific patrimony and a remarkable interest to use it for both scientific and divulgation purposes. Since much of the pre-WWSSN data is still owned and maintained by similar institutions, we think that sharing our related experiences, problems, ideas and projects could be of great interest for this audience.

The *Fabra Observatory (Observatori Fabra)* has been operating in Barcelona since 1904 (Codina et al., 2008). It was created and maintained by the *Royal Academy of Science and Arts of Barcelona (Real Academia de Ciencias i Artes de Barcelona – RACAB)*, an association of investigators of science and its applications established in 1764. It has always been devoted to astronomical, meteorological and seismological observations and studies. Seismic observations started in 1906 and have been maintained active since then. They included instrumental registers and macroseismic data collected from a number of sources, mainly from eastern Spain. The historical archive includes a few tens of thousands of seismograms and complementary documentation such as manuscript and printed bulletins, registers and station notebooks, scientific and divulgation articles in journals and periodicals, letters and scientific correspondence, printed publications from many other institutions, etc. Almost all instruments from that epoch, detailed in Batlló (2004), are conserved in our small museum or still being used for different purposes. An extense summary of our seismic historical patrimony, along with a detailed inventory up to that date, were already presented in ESC2012 (Merino et al., 2014).

Fabra Observatory is still an active institution with the main goal of working on interesting contributions to the scientific community. During the last decade we have increasingly devoted more of our limited resources to preserve, use and share as much of our scientific heritage as possible. Thanks to the inestimable advice, help and support from other institutions and particulars, we collaborated with TROMOS (<http://storing.ingv.it/tromos/>) and EUROSEISMOS ([http://storing.ingv.it/es\\_web/](http://storing.ingv.it/es_web/)) and through many modest projects there have been performed partial inventories, restorations, studies and scannings. Besides, the observatory has divulgation as another goal: it has a museum of used instruments, holds regular courses, conferences, scholar visits, and many other occasional activities. We are proud of maintaining our long tradition of being willing to share and collaborate in both scientific and divulgation ways with other investigators, institutions, individuals and groups in many and extremely diverse ways.

This year 2014 is the 250th anniversary of RACAB and the 100th anniversary of Mainka seismographs series (operating in smoked paper 1914-1998 and still operational). Besides, the RACAB main building in Barcelona center and the Fabra Observatory have recently officially been declared buildings of cultural-historic national interest by the Spanish government. Moreover, the Fabra Observatory has also been awarded with the *Historical Site* distinction by the *European*

---

<sup>1</sup> Observatori Fabra - Real Academia de Ciencias i Artes de Barcelona, Barcelona, mmerino@am.ub.es

<sup>2</sup> CRAI Taller de Restauracio, Universitat de Barcelona (UB), Barcelona, tandrades@ub.edu

*Physical Society*. These ephemerides and distinctions have encouraged and facilitated to initiate and develop many projects to recover, conserve and promote the historical patrimony of the observatory. In this particular context, there have been important progresses in many of those projects and activities related to our seismic heritage since ESC2012.

In particular, here we plan to detail the present status of our archive of seismograms, recently moved from RACAB offices to *Fabra Observatory* dependences, and to point out the most important recently finished, undergoing and planned projects related to this archive:

1. Each of the conserved seismograms from the first seismic station (1906-1913) have been restored, inventoried, and properly archived. These include more than a thousand seismograms now available to study.
2. The detailed inventory of the seismograms from the second seismic station epoch (Mainka and Vicentini seismographs operating from 1914 to 1998), now is complete for the period from 1929 to 1945.
3. More than one thousand selected seismograms of interest have been scanned at INGV facilities.
4. Most Station Books, Notebooks, Bulletins and other accessory documents have been scanned and we hope they will be available to study soon, too.

These are thought as first steps for more ambitious or longer term pursued projects such as: the catalogue of the *Fabra Observatory Library* and other instrumental, observational and documentary patrimony; the complete scanning of the historical archive; the study of simultaneous recovered Mainka and Vicentini seismograms in digital, in smoked paper, in scanned smoked paper, and in modern broad-band and short-period seismometers; etc

We present this contribution with the following main goals in mind: 1) set an example of doable activities and projects that a small independent observatory can undergo related to seismic heritage, even with severe limitations of resources and personnel; and 2) share with others our experiences, strategies and a few suggestions of what and why to do or NOT to do for each case.

## REFERENCES

- Batlló, J, "Catálogo inventario de sismógrafos antiguos españoles".Dirección General del Instituto Geográfico Nacional (Madrid 2004)
- Codina, JM, "Centè aniversari de la fundació de l'Observatori Fabra" Reial Acadèmia de Ciències i Arts de Barcelona (Barcelona 2008)
- Merino MT, Susagna T, Ortiz R, Andrades T, Batllo J (2012) "Seismic historical patrimony at Fabra Observatory" *Oral contribution in ESC2012*
- Merino MT, Susagna T, Andrades T, Batllo J (2012) "Detailed inventory of the seismic historical patrimony at Fabra Observatory" *Poster contribution in ESC2012*