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Accelerometric Network (Updated November 2011)

The installation of the first equipments of the ground motion network started in June 1995 with different objectives. Mainly, to record adequately (without saturation) strong motions, felt by population of the region. Also to carry out the study of the attenuation relationships of the acceleration with distance, the study of the amplification of soils in urban areas and to facilitate the studies of the seismic source for the big earthquakes between others aspects.

Site selection criteria

The main criteria used for site selection are following:

- 1) zones affected by big earthquakes at the past (the most active zones with seismic zones);
- 2) zones with moderate seismic activity highly populated and/or dangerous industries;
- 3) sites on different materials, soil and rock, to analyse the amplification of the ground motion.

At present 18 accelerometers are available, 13 of which linked(*) by real-time connection.

Equipment

The recording system is digital (at 200 or 100 samples per second) and the equipments are configured to record the three components of the ground motion in a continuous way or also in local recording when the trigger value oscillates on the different sites normally between $0.2 \times 10^{-3}g$ and $1.5 \times 10^{-3}g$.

MAIN CHARACTERISTICS OF THE ACCELEROMETRIC STATIONS OF CATALONIA

| Accelerometer | Code | Installation date | Latitude (N) | Longitude (E) | Height (m) | Soil type | Sensor | Owner |
|--|------|--------------------------|--------------|---------------|------------|-----------------------|------------------|-------------|
| Owner: IGC, Geologic Institute of Catalonia; IGN, National Geographic Institute; BRGM, Bureau de Recherches Géologiques et Minières (France); IEA, Institut d'Estudis Andorrans. | | | | | | | | |
| Fabra | FBRR | 6/06/1995 | 41° 24' 59" | 2° 07' 30" | 420 | Shales(Paleozoic) | SSA-2 | IGN |
| Olot | OLOS | 7/06/1995 22/06/2010 | 42° 10' 58" | 2° 29' 26" | 436 | Basalts (Quaternary) | SSA-2 CMG-5TD | IGN IGC* |
| Vielha 1 | VIES | 9/06/1995 (retired) | 42° 42' 14" | 0° 47' 50" | 965 | Alluvial (Quaternary) | SSA-2 | IGN |
| Vielha 1 | VIES | 22/10/2004 11/05/2010 | 42° 42' 43" | 0° 48' 01" | 969 | Alluvial (Quaternary) | SSA-2 CMG-5TD | IGN IGC* |
| Vielha 2 | VIER | 5/05/1998 (retired) | 42° 41' 53" | 0° 47' 48" | 1105 | Sandstones(Paleozoic) | K2 | IGC |
| Vielha 2 | VIER | 4/07/2002 | 42° 42' 16" | 0° 47' 32" | 994 | Tubidites (Paleozoic) | Geosys | IGN |
| Vielha 3 | TUNR | 3/07/2002 | 42° 37' 22" | 0° 46' 01" | 1582 | Alluvial (Quaternary) | Geosys | IGN |
| Montjuïc | MTJR | 11/02/1997 | 41° 22' 16" | 2° 09' 25" | 51 | Sandstones(Miocene) | Geosys | IGC |

| | | | | | | | | |
|---------------------------|------|---------------------------------------|-------------|------------|------|--|-----------|------|
| Llívia 1 | LLIR | 10/11/1997 | 42° 28' 45" | 1° 58' 27" | 1413 | Ritmites (Paleozoic) | K2 | IGC* |
| Llívia 2 | LLIS | 27/10/2001 | 42° 27' 53" | 1° 58' 24" | 1190 | Alluvial (Quaternary) | K2 | IGC* |
| Celoni 1 | CELS | 22/02/2001 | 41° 41' 34" | 2° 29' 34" | 150 | Alluvial (Quaternary) | K2 | IGC* |
| Celoni 2 | CELR | 20/09/2001 (retired) 26/06/2008 | 41° 41' 07" | 2° 29' 57" | 140 | Granite (Paleozoic) | K2 | IGC* |
| Andorra | AND1 | 10/11/2003 (retired) 1/07/2007 | 42° 30' 48" | 1° 30' 14" | 1078 | Marlycalcareous and shales (Paleozoic) | Etna | IEA |
| Nébias (França) | FNEB | 1/01/2007 | 42° 54' 11" | 2° 06' 23" | 580 | Lacustrine limestone (Paleogene) | Episensor | BRGM |
| Granollers | GRAM | 24/04/2008 | 41° 36' 26" | 2° 17' 19" | 215 | Alluvial (Quaternary) | K2 | IGC* |
| Montoussé (França) | FMON | 24/09/2008 | 43° 03' 45" | 0° 24' 55" | 630 | Limestone(Lower Cretaceous) | Episensor | BRGM |
| Espira-de-l'Agly (França) | FESP | 17/10/2008 | 42° 49' 07" | 2° 49' 15" | 170 | Limestone(Lower Cretaceous) | Episensor | BRGM |
| Estadística | BAJU | 26/02/2009 | 41° 23' 07" | 2° 10' 27" | 25 | Alluvial (Quaternary) | CMG-5TD | IGC* |
| Girona-Universitat | GIRR | 19/03/2010 | 41° 59' 07" | 2° 49' 40" | 104 | Limestone (Paleogene) | CMG-5TD | IGC* |
| Lleida | ILER | 23/03/2010 | 41° 37' 14" | 0° 37' 14" | 180 | Shales and grainstones(Paleogene) | CMG-5TD | IGC* |
| Tetuan | BINT | 28/04/2010 | 41° 23' 45" | 2° 10' 24" | 36 | Alluvial (Quaternary) | CMG-5TD | IGC* |
| Avinyó | AVIN | 09/11/2010 | 41° 50' 44" | 1° 57' 59" | 329 | Limestones and marls (Paleogene) | CMG-5TD | IGC* |
| Girona-Generalitat | GIRS | 21/02/2011 | 41° 59' 02" | 2° 49' 39" | 79 | Limestones (Paleogene) | CMG-5TD | IGC* |
| Reus | Reus | 06/05/2011 | 41° 08' 05" | 1° 11' 09" | 48 | Aluvial (Quaternary) | CMG-5TD | IGC* |

Situation map of the equipments of the accelerometric network of Catalonia

