



First results of the 2008 RESPYR GPS campaign in the Pyrenees

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In 2008, a GPS campaign was conducted in the Pyrenees between France and Spain. Prior to this one, others had already been carried out: PotSis'92, PotSis'94, PotSis'99, PotSis'03 focused on the eastern part of the range, RESPYR 1995 and 1997 over the entire belt. The main purpose of these campaigns is to study the present-day tectonic deformations in the Pyrenees area, which is the most seismically active region in France. The expected rate of deformation is of about 1mm/yr, which requires periodic observations. For the 2008 campaign, about 40 of a total of 85 sites were observed based on 48-hours session length, on both sides of the border.

The data are processed using different software packages (GAMIT, GIPSY 5, and GINS) to determine accurate coordinates at each site and the velocity field over a maximum time window of 13 years. Thus, the different results are combined to obtain a joint solution in terms of coordinates and velocities. This will ensure better accuracy on the velocity field resulting from the different campaigns and therefore on the characterization of the deformation of the Pyrenees.

This document shortly presents both the RESPYR campaign and the data along with the different results obtained from the different software packages in terms of software performance differences, coordinates and velocities for each site. Afterwards these results are compared and discussed. Then, the combined solution is presented.