



Hydrogeothermal modelling vs. inorganic chemical composition of thermal waters from the area of Carballiño (NW Spain)

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Abstract. Hydrothermic features in Galicia (northwest Spain) have been used since ancient times for therapeutic purposes. A characterization of these thermal waters was carried out in order to understand their behaviour based on inorganic pattern and water-rock interaction mechanisms. In this way 15 thermal water samples were collected in the same hydrographical system. The selected thermal water samples were classified using principal component analysis (PCA) and partial least squares (PLS) regression analysis in two groups according to their chemical composition: group I with the young water samples and group II with the samples with longest water-rock contact time. This classification agreed with the results obtained by the use of geothermometers and hydrogeochemical modelling, where the samples were classified into two categories according to their residence time in the reservoir and their water-rock interaction.
