

Statistical U-Th dating results of speleothem from south Europe

HSUN-MING HU¹, CHUAN-CHOU SHEN¹,
VERONIQUE MICHEL^{2,3}

¹ High-Precision Mass Spectrometry and Environment Change Laboratory (HISPEC), Department of Geosciences, National Taiwan University, Taipei 10617, Taiwan, ROC.

hsunming.hu@gmail.com

² Université Nice Sophia Antipolis, Campus Saint-Jean-d'Angély, SJA3 - CEPAM- UMR 7264 CNRS, 24 avenue des Diabls Bleus, 06357 Nice Cedex 4, France.

veronique.michel@cepam.cnrs.fr

³ Géoazur, UMR7329, UNS-CNRS-IRD-OCA, Valbonne, France.

Reconstructing of hydroclimate in the Mediterranean on orbital timescales helps improve our understanding the impacts of orbital forcings on the European regions. We collected 180 speleothem subsamples from Observatoire Cave (Monaco), Prince Cave (south France), Chateaufeu Cave (south France), Arago Cave (south France), and Basura Cave (north Italy) from 2013 to 2015. Uranium-thorium chemistry, isotopic measurement, and ²³⁰Th age calculation were conducted at the High-Precision Mass Spectrometry and Environment Change Laboratory (HISPEC), Department of Geosciences, National Taiwan University. Speleothem age distribution shows that most of samples deposited at interglacial periods, especially in marine isotope stage (MIS) 1, 5, and 11. However, only a few samples were dated between 180 to 250 thousand years ago, suggesting a possible dry condition at MIS 7, a period with different orbital parameters from values at MIS 1, 5, and 11. Our results imply different orbital-scale hydrological influences in South Europe at interglacial periods.