

Further attempt of $^{230}\text{Th}/^{234}\text{U}$ dating of Quaternary calcareous incrustations from El Jadida (West Morocco) and palaeoclimatic significance

¹BRANCA, M., ¹VOLTAGGIO, M., ²MASI, U. and ³NASSER, E.
¹Centro Studi per il Quaternario e l'Evoluzione Ambientale-CNR, Roma, Italia; ²Dipartimento Scienze della terra, Università "La Sapienza", Roma, Italia; ³Département de Géologie, Université Chouaib Doukkali, El Jadida, Morocco.

A new set of data on calcareous incrustations that occur on a Pleistocenic marine formation outcropping in the El Jadida area, western Morocco, have been carried out. The incrustations were formed because of the late Quaternary climatic variations. Several subsamples of the same incrustation constituted by different proportions of recrystallized and unrecrystallized calcite were analyzed for the U-Th amount and $^{230}\text{Th}/^{234}\text{U} - ^{234}\text{U}/^{238}\text{U}$ activity ratios in order to bias the apparent ages. A mingling line between two endmembers (the Pleistocenic marine calcite and the encrusting calcite) has been evidenced in the $^{234}\text{U}/^{238}\text{U}$ vs $^{230}\text{Th}/^{234}\text{U}$ diagram. The age of the encrusting event produced by upwelling of ground water with high $^{234}\text{U}/^{238}\text{U}$ activity ratio is close to about 15 ka. Around this age there was a general rise in temperature and increase in aridity throughout Northern Africa.