

REAL ANTE-DATED SAMPLES INTERCOMPARISON USING THE CARBON - 14 METHOD IN INTERNATIONALLY RECOGNIZED LABORATORIES

Launching the idea of a National Program of Carbon - 14 Dating in November 2012 and April 2013 Workshops organized by IFIN -HH, offered the chance of reunion in an organized effort of archaeologists and historians in Romania and neighbouring countries for the development of this application using AMS to 1 MV Tandatron from IFIN- HH.

For this purpose, a number of people from different Institutes, Museums and Faculties in the country sent to Carbon -14 Dating Laboratory samples that have been ante-dated in international accredited laboratories to provide the basis of establishing the procedures for the sample preparation, measurements and dating calculations.

Samples (animal and human bones, wood, and coal) have been recorded in an ordering system to ensure the traceability of the measurements chain. The samples were largely characterized by *sample characteristics sheets of the evidence* developed by IFIN -HH based on Grönigen Laboratory models and will be used for developing the AMS applications. The results will be replicated to the track reproducibility, and other specific parameters of the cycle (contamination degree of the old-carbon or modern-carbon, cross-contamination between samples etc.) and, in the end, will be compared, as a part of working sessions conducted with those who participated in this inter-comparison exercise, with the results received from internationally recognized laboratories on the same samples.

So far, there have been brought and recorded in Carbon -14 Dating Laboratory about 50 different samples of bone, wood, coal, grains, cereal grains from the National History Museum in Bucharest, Sibiu Brukental Museum, and other Museums and Institutes of Bulgaria, Moldova and Ukraine.

For the next period, along with solving these cases and strengthen the collaboration with archaeologists, historians and curators, the forecasts indicate the possibility of another 50 ante-dated samples reunion, both in the country and neighbouring countries, the latter proving to be extremely interested in opening cross-border cooperation both at this level and the one of similar functional laboratories in dating (Croatia, Hungary, Poland, Ukraine).

Beam time request: 25units