

Applications to Quaternary samples of high precision ^{14}C dating with a new generation AMS system at Nagoya University

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In 1996-1997, we have installed a new-generation Tandatron AMS ^{14}C system built by HVEE, B.V. After the successful performance tests of the spectrometer, we can now conduct ^{14}C measurements of archeological and geological samples with one sigma error around $\pm 20 - \pm 30$ years. In 2000, high precision ^{14}C ages have been obtained for more than 500 samples to establish a reliable chronology of paleoenvironmental changes. In addition, a far reliable calendar age of a huge tree has been successfully obtained with a ^{14}C wiggle matching method. The method consists of dating several annual rings of a tree, and comparing the measured ^{14}C wiggle with a well known ^{14}C wiggle (INTCAL98) established so far internationally by the world wide ^{14}C laboratories.