Limitation of Quantitative Measurement to Biological Samples by PIXE (CAARI 2004, On Line)

Mohamed Hassan Eisa, L. Zhong, H. Shen, Y. Mi, H. Y. Yao, Z. Y. Zhou
Institute of Modern Physics, Fudan University

PIXE method has been widely used in investigating biological and medical samples for many years because of its non-destructive, sensitive and multi-element measurement nature. Nevertheless much thought and care must go into consideration of the experimental details in order to obtain quantitative results. During our recent work on studying therapeutic effect of rhPTH(1-34) on Osteoporosis in rats, it was found that a large uncertainty of element concentration measurement could be occurred due to inhomogeneous and irregular surface of the bone samples. The physical processes caused such uncertainty and possible approaches to solve the problems have been discussed.

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