

用PIXE方法分析人发中微量元素时数据质量问题剖析

@沙因\$中国科学院高能物理研究所!北京 @刘平生\$中国科学院高能物理研究所!北京 @张润华\$中国科学院高能物理研究所!北京

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摘要 <正> 头发是人体排泄微量元素的器官之一,头发中微量元素的含量间接地反映人体中微量元素的含量。头发中微量元素的含量能反映一定时间内人体微量元素含量的情况。它可以作为环境条件和人体功能的“指示器”,给出环境污染和人体健康与疾病的信息。而发样又

关键词 [质子激发X荧光分析](#) [数据质量](#)

分类号

AN ELEMENTARY ANALYSIS ON THE DATA QUALITY OF TRACE ELEMENT DETERMINATION IN HAIR BY PIXE

SHA YIN; LIU PINGSHENG; ZHANG RUNHUA Institute of High Energy Physics, Academia Sinica, Beijing

Abstract The data quality of trace element determination in human hair by PIXE is fairly improved, when three measures are adopted: 1, The sample is thin homogeneous and smooth, especially the sample thickness is controlled about 0.1-0.2 mg/cm; 2, A computer program with multi-function for the analysis of complex X-ray spectra (PAXMF) is used. The PAXMF program not only gives out the net areas of characteristic peaks but also can calculate the concentration of elements in the sample, can subtract the interferences contributed by impurities in "blank sample" and can provide practical detection limits for the user; 3, System error is corrected by means of determination of trace elements in human hair standard material. 16 trace elements are analysed in human hair sample by PIXE as an intercomparison, the values of 7 elements (Ca, Ti, Mn, Fe, Ni, Zn, Pb) are in good agreement with the recommended values.

Key words [PIXE](#) [Data quality](#)

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