Characteristics of capillary x-ray optics for confocal three-dimensional micro-XRF technology

Tianxi Sun [a,*], Yude Li [a], Zhiguo Liu [a], Xiaoyan Lin [a], Ping Luo [a], Qiuli Pan [a], Xunliang Ding [a]

[a] College of Nuclear Science and Technology, Beijing Normal University, Beijing, 100875, China

Abstract

In order to use adequately the confocal three-dimensional micro x-ray fluorescence (3D micro-XRF) facilities based on capillary x-ray optics, the performances of capillary x-ray optics for confocal 3D micro-XRF technology were presented, especially, the energy dependence of the collecting angle and input focal spot size of the polycapillary parallel x-ray lens, and the energy dependence of spatial resolution of the confocal 3D micro-XRF spectrometer based on capillary x-ray optics. The applications of the confocal 3D micro-XRF facility in analysis of plant sample and aerosol particle will be discussed.

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*Corresponding author: College of Nuclear Science and Technology, Beijing Normal University, Beijing, 100875, China.
E-mail: stxbeijing@163.com
Fax: +8610 62208258
Phone number: +8610 62207171