

技术及应用

辐射径迹测量中的荧光激发影像板技术

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摘要 文章利用理论模拟计算手段研究荧光激发影像板 (IP) 对辐射径迹的响应。计算显示, IP对各种辐射径迹的灵敏度关系为: α 径迹 $>$ β 径迹 $>$ γ 径迹。实验验证了理论模拟计算结果的可靠性, 探讨了在 α 、 β 、 γ 射线混合场中IP测量单一射线的可行性、干扰及其消除方法, 并介绍了IP技术在放射性污染植物修复研究中的应用状况。

关键词 [径迹测量; 荧光激发影像板技术; 植物修复](#)

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Imaging Plate Technology Used in Measurement of Irradiation Tracks

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Abstract The imaging plat (IP) responsivity to irradiation tracks was theoretically studied in the present work. The results show that the IP responsivity to different irradiation tracks has the following relationship: α track $>$ β track $>$ γ track. The theoretical calculation is experimentally proved to be reliable. The possibility to measure only one kind of tracks in a mixed irradiation field (α , β and γ -ray), interference of one to another and shielding method were explored. The IP technology used in the field of phytoremediation of radionuclide contaminated soil was introduced.

Key words [track measurement](#) _ [imaging plate technology](#) _ [phytoremediation](#)

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