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图形、图像、模式识别

多发性硬化症MR图像分割新算法研究

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摘要 提出了一种针对多发性硬化症病灶T2加权脑部磁共振（MR）图像的分割算法。根据多发性硬化症病灶和脑脊液在T2加权像上同表现为高亮度信号的特点，把模糊*C*均值分割算法与形态学方法相结合，提出了基于核模糊*C*均值的多发性硬化症病灶分割算法。该算法首先用改进的核模糊*C*均值算法做基础分割，再用形态学方法提取出多发性硬化症病灶得到最终分割结果。通过对多发性硬化症模拟脑部MR图像的分割结果表明，算法能够比较准确地分割多发性硬化症病灶。

关键词 图像分割 核模糊*C*均值 多发性硬化症

分类号

Novel segmentation algorithm for multiple sclerosis lesions in MR images

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Abstract

A novel approach to the segmentation of Multiple Sclerosis（MS） lesions in T2-weighted Magnetic Resonance（MR） images is presented.According to the characteristic of MS lesions show the same high brightness with CerebroSpinal Fluid（CSF） in T2-weighted images，combining the strengths of the kernel fuzzy *C*-means algorithm and morphology characteristics of MS lesion tissues，the segmentation of MS lesions based on kernel fuzzy *C*-means algorithm is presented.The modified kernel fuzzy *C*-means algorithm is used to basic segmentation.Then the MS lesions are extracted by morphological method.The MS segmentation in simulated T2-weighted MR images show that the proposed algorithm can provide a powerful segmentation.

Key words segmentation of image kernel fuzzy *C*-means multiple sclerosis lesions

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