Tumor Detection Based on Data Fusion Technique for MRI Breast Imaging

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ABSTRACT

In this thesis, we proposed a scheme composed of the spatial, inter-slice, texture analyses, and multi-mode data fusion technique to achieve tumor region identification in MRI breast images. Our spatial analysis evaluates the intensity of the pixels and size information of candidate regions. To find a precise region, a region growing algorithm is proposed based on ellipse fitness. In the texture analysis, texture features are extracted form co-occurrence matrix and wavelet coefficients and combined with a neural network to filter out some regions resulting form normal tissue and noises. The inter-slice analysis is based on the continuity characteristic to verify the static behavior of tumor regions. The experimental results show that our proposed scheme can correctly identify tumor regions.

Keywords : MRI ; Tumor detection ; Data fusion ; Texture analysis

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