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# 基于B超图像处理确定HIFU治疗区域

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摘要 根据B超监控图像中HIFU（High Intensity Focused Ultrasound）治疗区域的特点，采用小波变换模局部极大值方法提取治疗区域边缘特征点，并结合模糊判决理论进行边缘连接，最后通过形态学后处理得到B超图像治疗区域的封闭轮廓曲线。结果证明：该方法克服了传统图像分割方法阈值难以确定的瓶颈，能够更好地从B超图像中检测出HIFU治疗区域的大小。

关键词 超声图像 治疗区域 边缘检测 数学形态学

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# Determination of HIFU treatment region based on mode B ultrasonic image processing

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**Abstract**

According to the characteristic of High Intensity Focused Ultrasound（HIFU） treatment region in mode B ultrasonic monitoring image，the edge feature points of treatment region，which are abstracted by method of local maximum of wavelet transform modulus，are connected by combining the fuzzy logic.At last，the closed contour curve of treatment region of mode B ultrasonic monitoring image is obtained by morphology post-processing.The results show that the size of treatment region can be detected better from mode B ultrasonic monitoring image by this method which has broken through the chock point that the threshold is hard to fix on in traditional image segmentation methods.

**Key words** ultrasonic image treatment region edge detection mathematical morphology

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