عنوان مقاله:

A Noise Adaptive Method for Needle Localization in 3D Ultrasound Images

محل انتشار:

دوازدهمین کنفرانس ملی سیستم های هوشمند ایران (سال: 1392)

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خلاصه مقاله:

intra-operative ultrasound imaging is a widely used technique for navigation of many minimally invasive medical procedures. Using the ultrasound imaging has advantages such assafety, speed and low cost in expense of low quality of the image due to the speckle noise. In this paper, we describe twotechniques for increasing the needle localization accuracy in high and low noise levels of the 3D ultrasound images. The level of thespeckle noise in the input image is estimated using the patchbased noise estimation method. In low noise levels we used the maximum likelihood criteria for model evaluation step of thefitting procedure. In high noise levels, the image is filtered before thresholding, using eigenanalysis of the Hessian matrix. Theresults show improvement in accuracy and speed with respect to the previous model fitting RANSAC based method

کلمات کلیدی:

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