Automatic Segmentation of Lung Pleura Based On Curvature Analysis

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Abstract : Segmentation of lung pleura is a preprocessing step in Computer-Aided Diagnosis (CAD) which helps in reducing false positives in detection of lung cancer. The existing methods fail in extraction of lung regions with the nodules at the pleura of the lungs. In this paper, a new method is proposed which segments lung regions with nodules at the pleura of the lungs based on curvature analysis and morphological operators. The proposed algorithm is tested on 06 patient's dataset which consists of 60 images of Lung Image Database Consortium (LIDC) and the results are found to be satisfactory with 98.3% average overlap measure (AΩ).