

Regional Lung Mechanics Using Image Registration

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Abstract: The human lungs are the main organs in the respiratory system that fulfill the needs of continuous supply of oxygen to trillions of cells in the body. Pulmonary diseases can change the mechanical properties of lung parenchyma. Pulmonary CT imaging lung at different level of inflations with image registration technique can be used to evaluate the regional lung mechanical properties noninvasively. In this talk, we present our recent research that uses the CT imaging along with non-rigid image registration to make local estimate of regional lung mechanics. Specifically, we will talk about the newly developed registration methods and quantification methods for lobar sliding.

