

Application and Performance Evaluation of a *Modified BM3D Denoising* Method to Emphysema Scoring on Ultra-Low-Dose CT Images

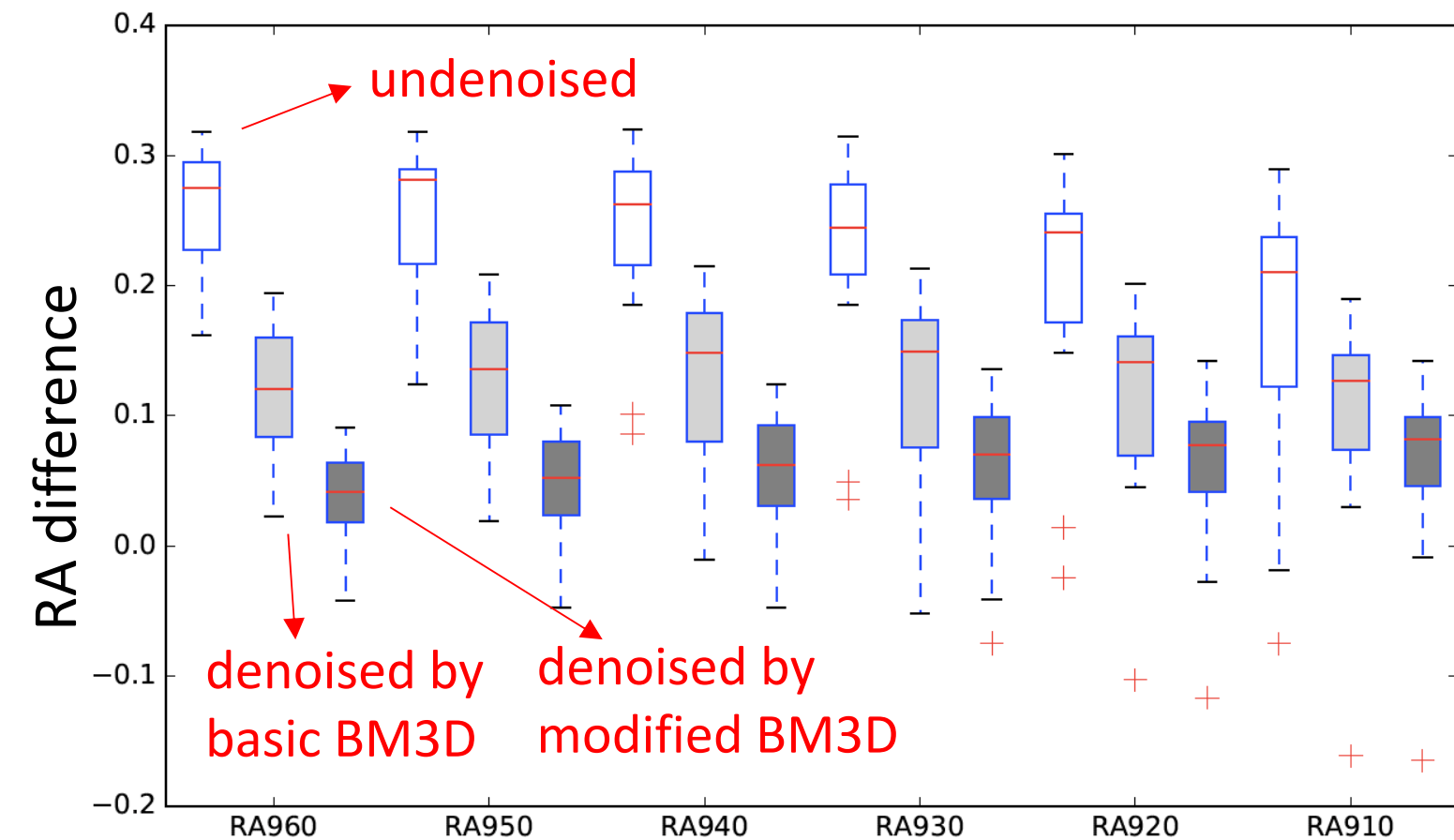
Tingting Zhao, Dan Ruan, *Quantitative Imaging: CT and MRI, 07/31/2018|4:30PM — 6:00PM*

Modified BM3D denoising: Wiener filter tailored to noise statistics in ultra-low-dose CT images

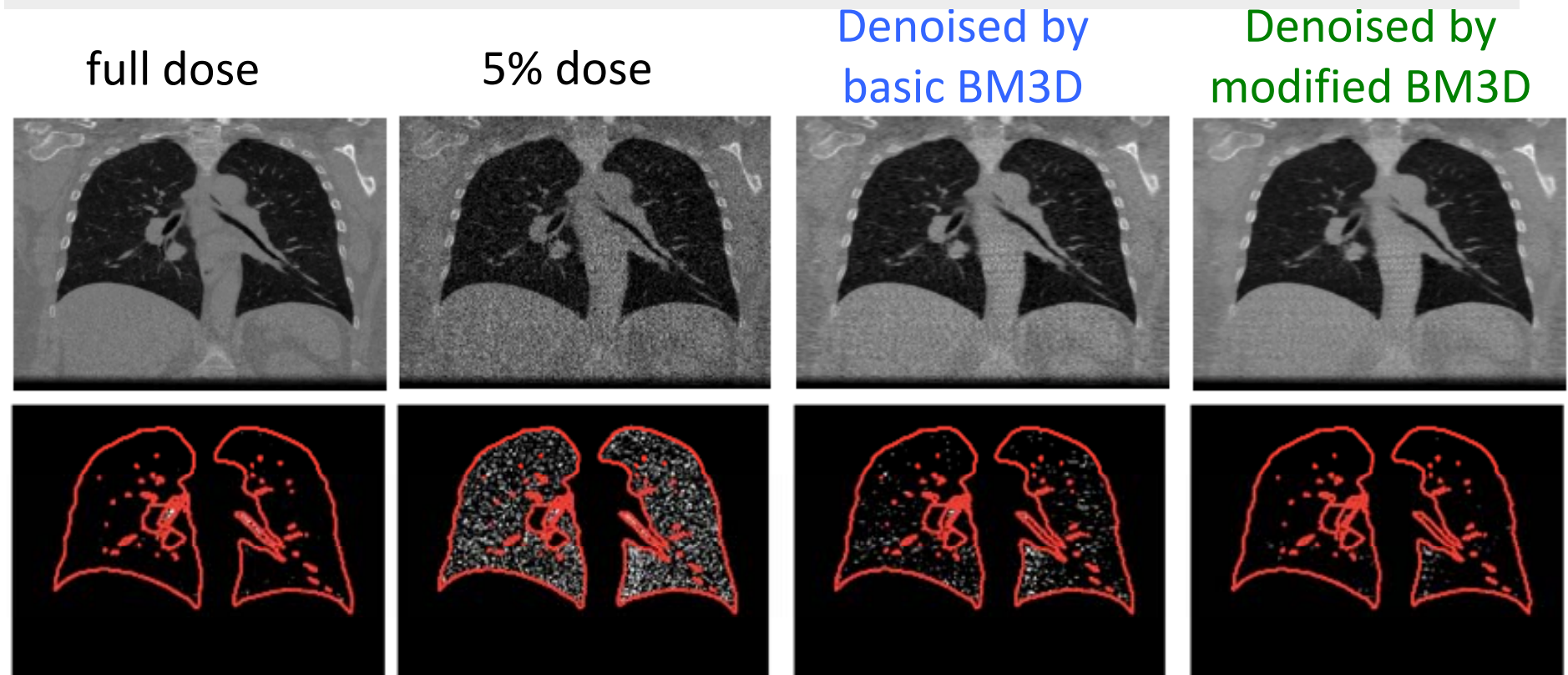
Criteria to evaluate the clinical implication in emphysema scoring: **relative area (RA)**

- *Boxplots of RA difference between (denoised) 5%-dose image and the full-dose one using RA960-RA910*

- *Examples of (denoised) images & emphysema masks using RA950*



Case 1: no emphysema



Case 2: with emphysema

