

Cover Letter (*Coronary artery calcium mass measurement based on integrated intensity and volume fraction techniques*)

Significance

The integrated calcium mass and volume fraction calcium mass techniques can potentially improve risk stratification for patients undergoing calcium scoring and further improve risk stratification compared to Agatston scoring.

Problem

The coronary artery calcification (CAC) score is a marker of atherosclerotic disease. Agatston scoring is the most common CAC scoring technique and is a good predictor of major adverse cardiac events (MACE). Although, studies have shown that a significant number of patients have been characterized as having no calcium while still developing MACE. This is likely due in part to the intensity thresholding requirements associated with the Agatston scoring technique.

Why Journal of Medical Imaging

Two new calcium scoring techniques are presented that improve the current gold standard approach's accuracy, reproducibility, and sensitivity. This manuscript, based on computed tomography, falls within the scope of the Journal of Medical Imaging, specifically "Advances in computer-aided diagnosis and quantitative image analysis"