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Non-Monte Carlo methods for investigating the application of coded aperture breast tumour imaging

M A Alnafea, D Mahboub and K Wells
King Saud University, Saudi Arabia

This paper describes two non-Monte Carlo methods for investigating the possible application of Coded Aperture (CA) in breast tumor imaging. The first one based on a simple approach called Binary Mask Shift (BMS) representing the action of a distributed source in the projective CA imaging geometry. The second method based on Pseudo-Ray Tracing (PRT) that obtained by purely calculating the angle of incidence of each point in the object that successfully strikes an open aperture element and then hits the detector element. These methods particularly used for CA imaging investigations. Interestingly, these non-Monte Carlo methods yields similar results of a similar CA pattern but takes less computing power, than using a full MCS approach.

Biography

M A Alnafea is presently working as an Assistant professor in King Saud University, Saudi Arabia. He attended several International and National conferences. He published several article in different journals as well.

alnafea@ksu.edu.sa