

Poster PE-6

Development of Quadrature Resonator for Breast MREIT

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목적 :

The high resolution is needed for the detection of minimal breast cancer using Breast MREIT technique, and the resonator design is a major factor in determining image quality and field of view (FOV). So we suggest the quadrature resonator with excellent SNR and good B_1 field homogeneity.

대상 및 방법 :

The use of a large volume transmit coil with a receive-only surface coil is the method of choice for many MRI applications needing high sensitivity. We propose several kinds of Tx coil. (16-rung Birdcage coil, STR coil and Dual saddle quadrature coil) and compared various result from proposed Tx coil. Based on the best result from above three Tx coil, we manufactured a surface coil with helmholtz type and one loop type. This generates quadrature operation. We also manufactured a breast phantom for Breast MREIT experiment.

결과 :

We have designed a Quadrature Resonator to obtain MREIT breast phantom image and confirmed a performance of the resonator.

결론 :

The breast phantom imaging results obtained with Quadrature Resonator show a high SNR and good homogeneity. The developed resonator is useful for Breast MREIT experiment.