**Docket #:** S09-270

# MRI - Transient Balanced SSFP Imaging with Increased Signal

A magnetic resonance imaging system or method is provided including a balanced steady-state free-precession transient imaging (transient bSSFP) device capable of increasing the overall signal during transient bSSFP acquisition by fully or better utilization of the magnetization through variable RF flip angles. The transient bSSFP device is capable of generating a series of echoes with a desired transverse magnetization profile M.sub.T. It is further capable of generating RF pulses each having a distinct RF flip angle for each of the echoes in the series of echoes. The transient bSSFP device is coupled to a computer capable of calculating the distinct RF flip angle for the nth echo in the series of echoes. The computer calculation utilizes a program encoding an analytical inversion of the Bloch equation. Once the RF flip angle is calculated, it is used by the transient bSSFP device in the generation of the nth echo.

## Publications

- U.S. Application No. 12/660,676

## Patents

- Published Application: 20110210732
- Issued: 8,432,166 (USA)

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