Title (en)

SHIFTED ECHO MR METHOD AND DEVICE

Title (de)

MAGNETISCHES RESONANZVERFAHREN UND -GERÄT MIT VERSCHOBENEM ECHO

Title (fr)

PROCEDE ET DISPOSITIF DE RESONANCE MAGNETIQUE A DECALAGE D'ECHO

Publication

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Application

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Abstract (en)

[origin: WO9847016A1] The invention relates to a fast imaging method based on gradient recalled echoes of nuclear spins whose excitation and echo formation are not contained in the same sequence. The method has an increased susceptibility to variations in the time constant T2* of the free induction decay of the MR signal and is used in, for example, functional MR imaging studies that are based on temporary changes in T2* which are caused by local changes in magnetic susceptibility e.g. local changes in brain oxygenation state of a human or animal body. In order to reduce the susceptibility of the image quality to motion navigator, gradients are generated in each sequence so as to measure a navigator MR signal. From the measured navigator signals a phase correction is determined and the MR signals measured are corrected by means of this phase correction. The invention is based on the insight that the image quality is dependent on phase errors in successive MR signals and that motion of the body makes a substantial contribution to these phase errors. Furthermore, the motion-related phase error of the navigator MR signal and the phase error of the MR signal are correlated. Therefore, the correction of phase errors of the measured MR signals can be determined from the phases of navigator MR signals measured.

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