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MRI scanner development in Russia

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1.5 T magnetic resonance scanner has been successfully completed and high resolution images have been acquired. It is based on 1.5 T superconducting magnet developed and manufactured within the russian Everest project with warm bore 90 cm. Peak field on the coil windings is about 3.5 T. The field homogeneity is about 1 ppm in 45 cm sphere, the magnet field stability is better than 0.02 ppm/hour. The magnet is actively shielded; the 0.5 mT line of a fringe field is located at 2.6 /4.4 m from center in radial / axial directions correspondingly. The gradient coils are actively shielded, the gradient value is 35 mT/m. The magnet operation is stable and has zero helium losses within 15 months measurements. The software is developed and enables the high precision tomograms of all human organs with spatial resolution 0.4 mm. Coils for all main anatomies like full body, knee, head, should, ankle, wrist and spine have been developed and successfully tested on a specially developed imaging software.

Submitters Country

Russia

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