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SIEMENS MR SYSTEM "MAGNETOM"
K.Fujii
Siemens Medical Systems Ltd.

MAGNETOM is the superconductive MR system for the whole body. Its field strength can be selected from the systems of 0.35T, 0.5T,1.0T(for proton imaging),and 1.5T(for imaging and spectroscopy of multi-nuclei). This system has great flexibility in pulse sequencing, providing free selection or free programing. Users can operate this system not only for routine diagnoses but also for special clinical studies.
MAGNETOM has the following features: slice thickness-3~20mm(1.7mm by 3DFT),resolution-0.37mm,shortest scan time-12.8 sec. and multi echo-max.32.
ECG-gated images,respiratory-gated images, surface coil images,proton chemical shift images,etc. are available in applicational software/hardware.
Siemens is developing P-31 spectroscopy for use in Japan and world-wide. In addition Na images have shown experimental results.
With its self shield magnet system, which greatly reduces the stray fields, the MAGNETOM can be installed even in a limited space.

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SURFACE COIL IMAGE AND SPECTROSCOPY.
M. Inaba. Yokogawa Medical Systems.

Signa™ (GE-MR) is a high field MR system of 1.5 Tesla. Signa system has capability to perform both imaging and spectroscopy.
Surface coil imaging is one of the new technique of the difficult region to visualize by X-ray CT: spine and orbit, etc.
Another applications is spectroscopy.
GE has recently developed Depth Resolved Surface-coil Spectroscopy (DRESS). Same gradient field as imaging is used to define the appropriate region. DRESS may open the way to assess the metabolic activety in the tissues.
The result of surface coil images and ^{31}P and water suppressed ^{1}H spectrum obtained DRESS are shown here.

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ASAHI MARK-J NMR-CT. T.Mizutani.Asahi Medical co..

The Asahi Mark-J employs a resistive magnet, a vertical magnetic field, and spin-warp scanning. It provides high resolution images with a low-strength, 1,000 Gauss magnetic field. The Mark-J meets the conditions necessary for practical NMR-CT. Requirements for installation are minimal. In operation, it has little effect on other equipment and is relatively unaffected by the movement of magnetic objects in the surrounding area, and is safe for both patient and operator. All of these are made posiible by the employment of the low-strength, vertical magnetic field. A special body-section scanning coil(surface coil), ECG gated scanning, respiratory gated scanning, and blood-flow imaging system have been developed and are now entering practical use. Some essential advantages of the Mark-J are:
1) Achievement of high resolution images with a low-strength magnetic field, due to the vertical magnetic field orientation and spin-warp scanning. 2) Minimal space requirements and environmental influence. The main unit is completely shielded, and there is no need for additional shielding in the scanning room. 3) Economical operation, due to the employment of the low-strength magnetic field. 4) Versatility and amenability to expansion, in both equipment and software. 5) Broad selection of available pulse sequences. 6) Capability for highly accurate experimental research, with high-resolution (0.7mm) animal scanning coil.

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PICKER INTERNATIONAL'S SUPERCONDUCTIVE MRI SYSTEM, VISTA-MR HIGH PERFORMANCE SYSTEMS.
S. Ohashi, M. Kagami, Toray Fuji Picker International, Inc.

The VISTA-MR High Performance system is a unique family of magnetic resonance super conductive imagers designed for clinical imaging from 0.5T to 1.5T field strength and spectroscopic capable at 1.5T to 2.0T. This system used new computer and high speed array processor, in addition, image storage at 340 Megabyte. This disk can be expand to 1.36 Gigabyte(option). Patient table transport vertically from 67cm to 93cm and position accuracy is 1mm. Image reconstruction used 2DFT and 3DFT for volume scanning. Multislice(64 slices), multiecho(maximum 6 echoes), and ultra thin slice application(2mm). In addition, the field of view user selectable from maximum 10cm to 1cm incliment. This system has radio frequency range from 10MHz to 90MHz. Peak power to transmitter coil is 15Kw. Image analysis function, they have added new software of roaming zoom, cine zoom, image inversion, CM scale. The system patient appature is 60cm, therefore, it is easy to scan large patient. The VISTA-MR High Performance system provides easy operation, quick throughput and better imaging analysis capabilities.