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JEOL RESONANCE

News Release

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JEOL Resonance Introduces New Zero Boil Off Magnet for NMR Systems

April 15, 2013 - Pacific Grove, California -- JEOL Resonance (Akishima City, Tokyo) has developed a new Nuclear Magnetic Resonance (NMR) super conducting magnet that operates on a minimum amount of liquid helium. The new NMR system will be announced at the 54th Experimental Nuclear Magnetic Resonance Conference (ENC), the largest NMR conference in the US.

JEOL's new NMR system is capable of acquiring high resolution NMR data when liquid helium is scarce. A super conducting magnet is typically cooled with liquid helium to keep its internal coil in the super conducting state and to maintain magnetic field intensity.

The new JEOL Resonance Zero Boil Off magnet will substantially reduce consumption of liquid helium by reliquifying the helium gas generated by evaporation of the helium in the magnet. In the event of a power outage the helium reservoir will maintain the magnetic field for 4 days. The cooling system design allows for biannual maintenance without affecting the high magnetic field of the super conducting magnet and minimizes vibration and noise that can interfere with NMR signals.

JEOL Resonance offers a line of magnets with a magnetic field intensity ranging from 400 MHz (9.4 T) to 930 MHz (21.8 T). The company plans to incorporate the new technology in the models of higher magnetic field intensities such as 500 MHz (11.7 T) and 600 MHz (14.1 T) to offer a complete line of new NMR systems. Shipments will begin in May 2013.



NMR Used to Study Molecular Structures at the Atomic Level

NMR systems are analytical tools designed to study the molecular structures of substances



at the atomic level by measuring extremely weak radio waves. NMR is essential in development of proteins, polymers, drugs, and new materials, and has been utilized in pharmaceutical, biology, food, and chemistry. Recent applications include organic LEDs and battery materials, both of which are new research areas that are growing rapidly.

JEOL RESONANCE Inc.

JEOL RESONANCE, Inc. was established in April 2011 based on the NMR Division that was split from JEOL Ltd., and was financed by Innovation Network Corporation Japan and Japan Superconductor Technology. The company's mission is to develop new technologies, high end products, and new applications.