

Specifications

Item being purchased Vibrating Sample Magnetometer (VSM).

The following are requirements:

- 1) The system must be delivered a complete "turn-key" apparatus with computer control and data acquisition and analysis tools.
- 2) An electromagnet capable of producing fields up to 20 kOe ($\sim 1.6 \times 10^6$ A/m). We will allow for a reduced field range of up to ~ 17 kOe when using the temperature control and/or vector coil option.
- 3) A noise floor of $< 1 \times 10^{-6}$ emu (< 1 micro-emu) with no data averaging. Data averaging for still better signal-to-noise is also required.
- 4) Ability to establish and control sample temperature over a range of 80 K to ~ 800 K. Available options for extending temperature range down to 4.2 K.
- 5) Automated sample rotation.
- 6) Vector coil option.
- 7) A suite of sample measurement and data analysis techniques, including but not limited to: magnetic hysteresis, virgin magnetization,
- 8) Torque magnetometry and magnetoresistance capabilities as available options is desirable.
- 9) Computer must have removable hard drive(s) no permanent internal drives or wireless networking.