

### **Use of AMR Sensors for Lightning Magnetic Field Measurement**

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Possibility of using compact Anisotropic Magneto-Resistive (AMR) sensors to measure the magnetic fields generated by Lightning flashes were tested in this study. Honeywell HMC1022 2-axis AMR sensor was selected for the measurements. Sensitivity of the measuring setup was increased using the LMH6624 op-amp. The measuring setup can measure magnetic fields as low as  $300\mu\text{G}$  in the range of DC to 4 MHz. Field measurements conducted in November 2005 in Colombo reveals that the setup can be used successfully for lightning magnetic field measurements. Due to the higher accuracy in angle and the amplitude suggests that the new setup can replace traditional bulky loop antennas in lightning magnetic field measurements as well as in lightning direction finders.