



FIG. 5.9: Temperature error, $(T_{\text{apparent}} - T_{\text{actual}})/T_{\text{actual}}$ (%), at different magnetic fields, for a range of carbon glass resistance thermometers ($\sim 900 \Omega$ to $\sim 2300 \Omega$ at 4.2 K). Error bars for the 18 T curve represent plus and minus one standard deviation. These data were calculated and replotted as temperature error from magnetoresistance data from Sample et al. (1982). The effect of magnetic field is somewhat larger than that of zirconium-oxynitride thermometers, but the data of Sample et al. (1982) can be used to reduce temperature error to a level comparable to that of zirconium-oxynitride sensors. Orientation of the sensor is such that the long axis of the thermometer case is parallel to the magnetic field (current through the sensor is parallel to the field).