

**PART 2:      TECHNIQUES AND THERMOMETERS TRACEABLE TO THE  
INTERNATIONAL TEMPERATURE SCALE OF 1990**

In all temperature ranges there are thermometers that are widely used because of certain advantages such as low cost and ease of use (e.g. base metal thermocouples), yet they are insufficiently reproducible to be included with those of Part 1. Temperatures measured with them are of course traceable to the ITS-90 through proper calibration procedures. There are also thermometers of only modest quality that are nevertheless extremely useful for certain special measurements (e.g. measurements in the presence of high magnetic fields). In Part 2 there are discussed the more commonly used thermometers in these categories. For the cryogenic range there are included the carbon, carbon-glass, and platinum-0.5% cobalt resistance thermometers, and silicon and gallium arsenide diodes. For higher temperatures, thermistors, liquid-in-glass thermometers, IPRTs, and base-metal thermocouples are so widely used, largely because they can provide in appropriate circumstances adequate reproducibility or accuracy at very low cost, that discussion of them is mandatory. Additionally, Chapter 19 treats the behaviour in magnetic fields of several of the thermometers of both Parts 1 and 2.