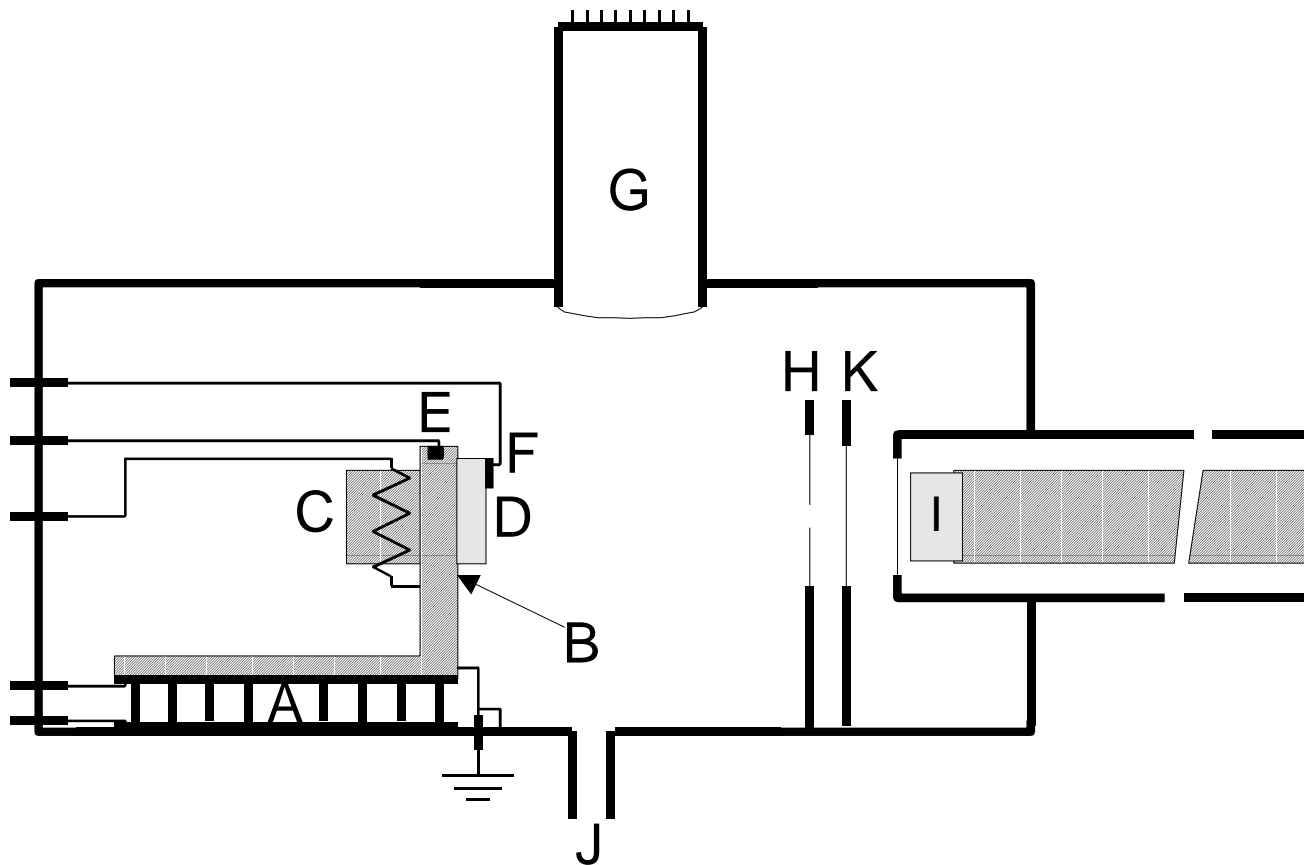
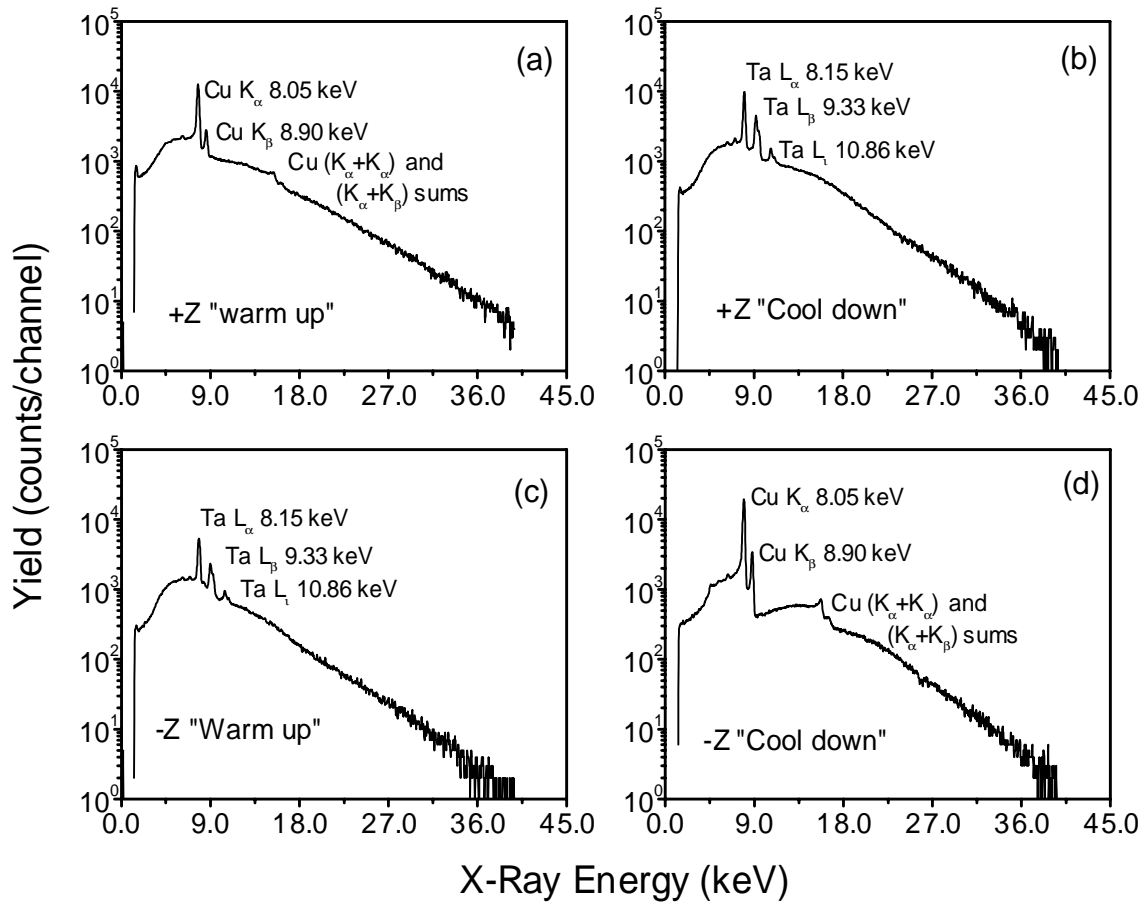


SPECTROMETER DESIGNS



Schematic representation of the arrangement of the apparatus for most of the experiments described in this report. Position (A) Peltier effect cooler, (B) Crystal and heater support, (C) Heater resistor of 62Ω , (D) Pyroelectric crystal, (E) Temperature probe, (F) Small contact connected to electrometer, (G) Photomultiplier, (H) Target, (either metallic or nonmetallic), (I) Si(Li) x-ray detector with thin Be window, (J) Vacuum pump outlet, and (K) Thin mylar absorber to prevent electrons from striking the Be window.



Comparison of the spectra of x rays, produced during “warm up” and “cool down” when the +z base face the target, with the spectra of x rays from the same crystal, during “warm up” and “cool down”, when the -z base face the target. The crystal used in this experiment was LiTaO₃. (a) “Warm up” of crystal of LiTaO₃ with +z base facing the Cu target. (b) “Cool down” of crystal with +z base facing the Cu target. (c) “Warm up” of crystal with -z base facing the Cu target. (d) “Cool down” of crystal with -z base facing the Cu target.

Designs

