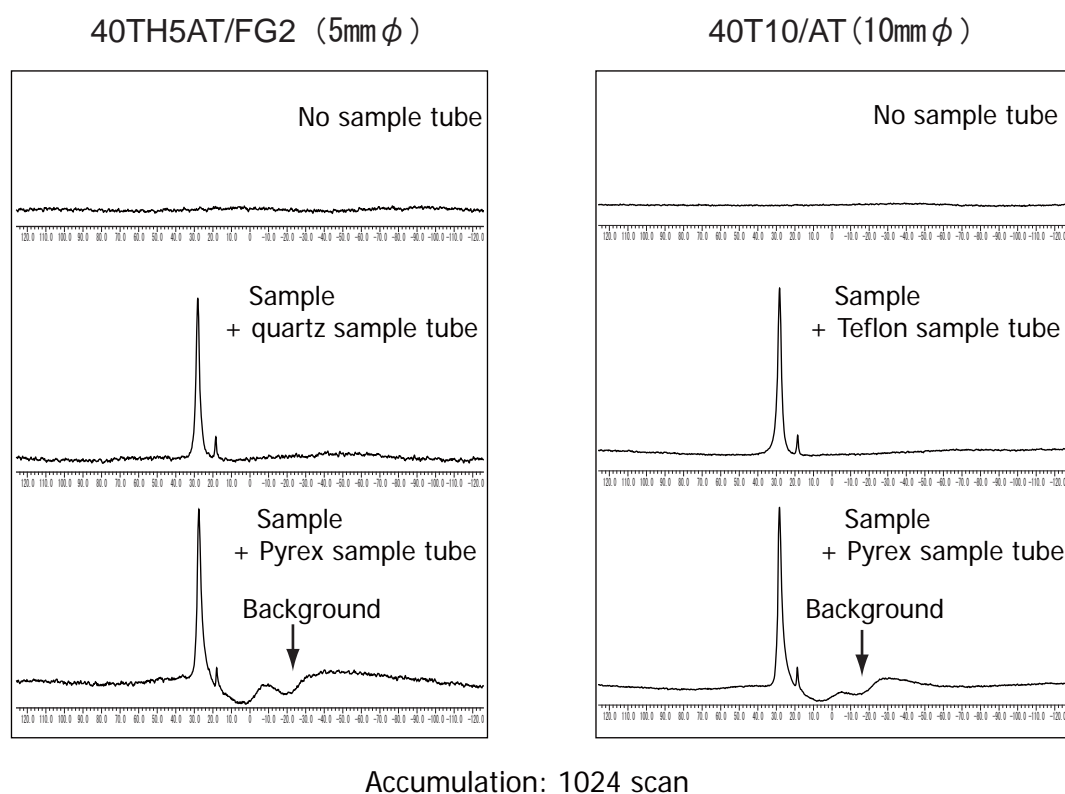


Background in ^{11}B measurements

In ^{11}B measurements, similarly to ^{29}Si measurements, background signals may sometimes be a problem. Although the background derived from sample tubes can be reduced by using quartz or Teflon sample tubes, those from glass and ceramics of the probe cannot be removed.

JEOL revised the glass and ceramic materials of the standard probe parts and successfully reduced the ^{11}B background signals.



The above figure shows the ^{11}B spectra observed using a 400 MHz spectrometer and 5 mm ϕ (left) and 10 mm ϕ (right) probes. The ^{11}B spectra without sample tubes (top) manifest almost no background signals derived from the probes.

The middle and bottom figures show the ^{11}B spectra of phenylboric acid (1.0×10^{-2} M). Although Pyrex sample tubes are commonly used, they may cause background (bottom). Therefore, quartz or Teflon sample tubes (middle) are recommended in ^{11}B measurements.