

Back Linear Prediction

In NMR measurements for low- γ nuclei, baseline distortion due to acoustic ringing is a serious problem. Especially in the case of quadrupolar nuclei having broad linewidths, NMR signals and baseline distortion cannot be distinguished frequently. Such distortion, corresponding to the disturbance at the first several points of FID, can be corrected by Back Linear Prediction (BLP); BLP replaces distorted points by undistorted ones predicted using normal data (Fig. 1). Figure 2 shows the Fourier transformed spectra after BLP, demonstrating that baseline distortion is almost removed by replacing 3 points.

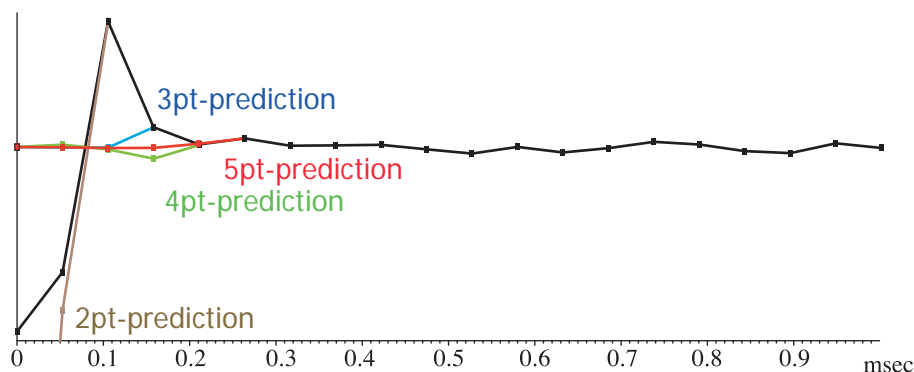


Fig. 1 Distorted and BLP-corrected data points of FID in ^{103}Rh NMR of RhCl_3

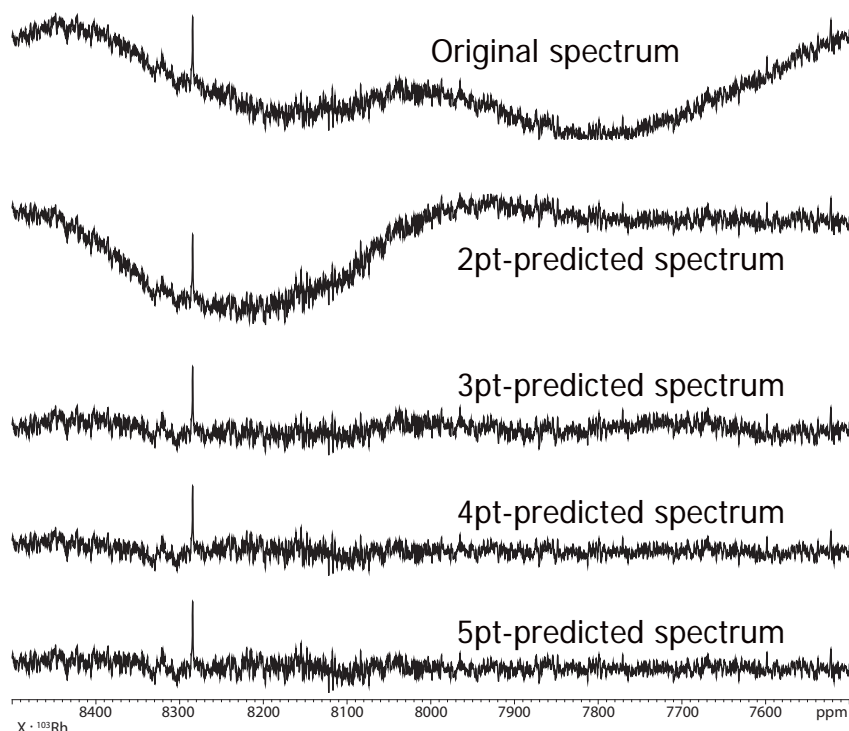


Fig. 2 Effects of BLP in ^{103}Rh NMR spectra of RhCl_3
 ※ The number of points used in BLP for each spectrum is 64.

Spectrometer: JNM-ECA600