

LABNOTE MONOCHROMATIC AG $K_{\alpha 1}$ -RADIATION AND THE NEW LINEAR HR-PSD 1

SETUP

Measurement of LaB_6 in a 0.3 mm capillary on a STOE STADI P powder diffractometer with AG $K_{\alpha 1}$ - radiation in Debye-Scherrer mode up to $90^\circ 2\theta$ ($d=0.396\text{\AA}$!).

RESULTS

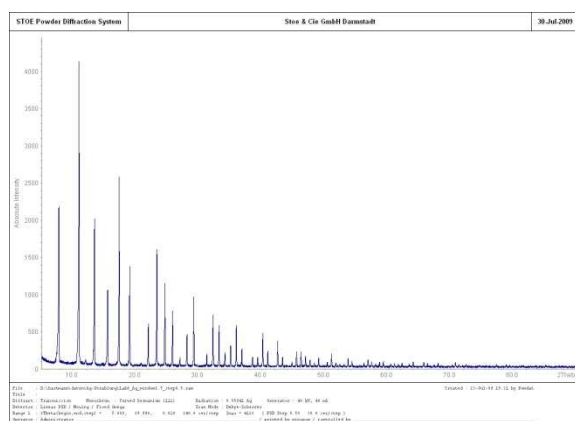


Figure 1

Figure 2 shows a detail of figure 1 with the reflection markers of the ICDD database (phase 34-0427).

Though the reflections at the low angle side show the typical asymmetric peak shape the Rietveld refinement of the LaB_6 structure using Fullprof¹⁾ and the profile function of Finger, Cox & Jephcoat²⁾ results in excellent R values and shows a FWHM of $0.04^\circ 2\theta$ for the LaB_6 100 reflection.

Figure 1 shows the fullpattern of LaB_6

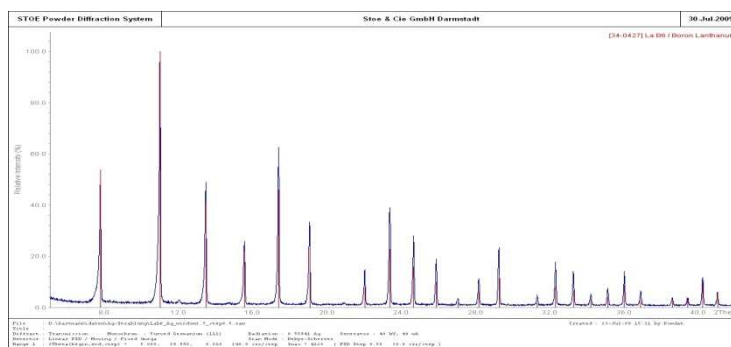


Figure 2

Figure 3 shows the observed and calculated pattern of the Rietveld refinement with the reflection markers and the referring difference plot.

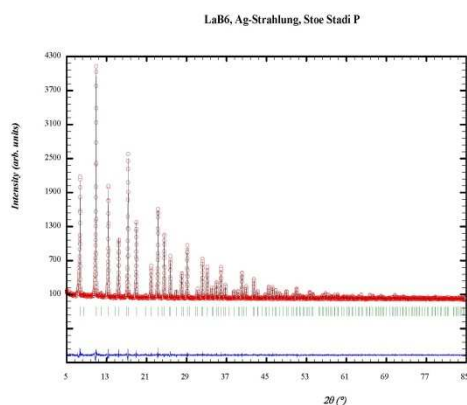


Figure 3

¹⁾ Rodriguez-Carvajal, J., Physica B.(1993), 192, 55

²⁾ Finger, Cox and Jephcoat, J. Appl. Cryst. 27, 892, 1994