NEW ANAYTICAL EXPRESSION OF THE THRESHOLD LIMIT OF THE MIXING PARAMETR OF PSEUDO-VOIGT FUNCTION

F. HADJ LARBI*, A. KHEREDDINE, D. BRADAI.

**alarbi_fay@yahoo.fr*

Faculty of Physics, USTHB, BP 32 El-Alia, Dar El Beida, Algiers, Algeria.

Abstract: We revisit the theory of X-Ray Diffraction Profile Analysis relative to the pseudo-Voigt function (noted *pV)*. We present a generalization of the analytical expressions of integral breadth, full width at half maximum and Fourier transform of the *pV* function. The main result is a new analytical expression of the threshold limit of the mixing parameter η which is depending of the Gaussian and Lorentzian components of full width at half maximum of the pV function. The new expression is used to develop a new algorithm for the fit procedure. The efficiency of the proposed program is tested on different experimental line profiles and seemed better than earlier available programs