One of us (HM) is grateful to NTNF and NAVF for the financial support. Thanks are due also to Dr T. Norby for help with the specimen preparation.

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SHORT COMMUNICATIONS

Acta Cryst. (1994). A**50**, 123

Multipole analysis of X-ray diffraction data on BeO. Erratum.

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(*Received* 25 *October* 1993)

Abstract

A misprint in the paper by Vidal-Valat, Vidal, Kurki-Suonio & Kurki-Suonio [*Acta Cryst.* (1987), A**43**, 540-550] is corrected.

On Fig. 1, the value 2.7823 Å should read 2.7283 Å.

Professor E.-F. Bertaut is thanked for bringing our attention to this misprint.

Acta Cryst. (1994). A**50**, 123–126

Concerning the components contributing to Bragg reflection profile shapes in synchrotron-radiation studies of small single crystals.

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(*Received* 22 *July* 1993; *accepted* 8 *September* 1993)

Abstract

Certain basic matters in a recent synchrotron-radiation study [Rossmanith (1993). *Acta Cryst.* A**49**, 80-91] and an allied study which developed a new peak-width formula [Rossmanith (1992). *Acta Cryst.* A**48**, 596-610] are questioned. These matters concern the mode of combination of certain components which determine the one-dimensional profile shape of Bragg reflections and the functional form of the wavelength dispersion dependence on the Bragg angle of the sample crystal and that of a monochromator crystal where the respective crystal axes are parallel.

1. Introduction

A recent synchrotron-radiation study by Rossmanith (1993; hereafter *R*93) dealt with the various individual components which combine to determine the one-dimensional profile shape of Bragg reflections from a small specimen crystal, *c*, as the Bragg angle of the crystal, θ_c, changes. The synchrotron radiation convergent on *c* comes from a monochromator crystal, *M*, and corresponds to a wavelength band, $\Delta\lambda$. In an earlier publication, Rossmanith (1992; hereafter *R*92) introduced an additional component, called the 'particle-size effect' in *R*93, and denoted by ε. By incorporating this component with the wavelength-dispersion component, a new peak-width formula was derived in *R*92 (non-monochromator case) and in *R*93 (monochromator case). The modes of combination of components in *R*92 and *R*93 and the derivation of the functional form of the wavelength dispersion in *R*93 differ significantly from those associated with earlier published works and, therefore, they warrant comment.

2. Identification of the components in diffraction space and their mode(s) of combination (non-monochromator case)

To identify the various components and their contribution to the shapes of one-dimensional profiles, there is considerable advantage in approaching the situation from a two-dimensional

ISSN 0108-7673