ORIENTATION DISTRIBUTIONS OF LOW SYMMETRY POLYPHASE MATERIALS USING NEUTRON DIFFRACTION DATA: APPLICATION TO A ROCK COMPOSED OF QUARTZ, BIOTITE AND FELDSPAR

D. CHATEIGNER a,b,* , H.R. WENK b,c and M. PERNET c

a Lab. Physique de l'Etat Condensé, Univ. du Maine-Le Mans, BP535 F-72085 Le Mans, France; b Department of Geology and Geophysics, University of California, Berkeley, CA 94720, USA; c Lab. de Cristallographie-CNRS/UJF, BP166 38042 Grenoble Cedex 9, France

The crystallographic texture of the three main constituting phases of a granodioritic rock have been determined quantitatively, using neutron diffraction with a position sensitive detector. Intensities deconvoluted from the full profiles were used in the orientation distribution refinements using the WIMV algorithm. Satisfactory results were obtained for the three phases.

Keywords: Neutron diffraction; PSD; Polyphase; Quartz; Biotite; Feldspar