

METHOD AND APPARATUS FOR X-RAY DIFFRACTION ANALYSIS

Abstract

A method for transmission mode X-ray diffraction analysis of a sample by means of an apparatus comprising an X-Ray
5 radiation source (21) that provides X-ray radiation for irradiating the sample and a detector (22) for detecting X-ray radiation transmitted through and diffracted by the sample.

The method comprises: (a) placing a sample to be analyzed on
10 a substrate (19), (b) generating a strip-shaped X-ray beam (24) the central part of which extends along a plane, (c) positioning the substrate (19) and thereby the sample in an initial position in which said sample lies in the path of beam (24) and a slice (27) of the sample is irradiated by
15 beam (24), (d) effecting the following movements of the substrate (19) with respect to the above mentioned initial position thereof:

(d.1) a rotation of the substrate (19) and thereby of the sample around a rotation axis (29) which is perpendicular to
20 the substrate, the rotation covering a predetermined rotation angle, and (d.2) a tilting of the substrate (19) and thereby of the sample around a tilting axis (28) and over a tilting angle (T) defined as the angle that the rotation axis (29) forms with the plane through which the
25 central part of the beam (24) extends, the tilting axis lying in the plane through which the central part of the beam (24) extends and being perpendicular to the rotation axis (29), the tilting covering a tilting angle (T) that varies between a first predetermined value and a second
30 predetermined value, and (e) detecting with the detector (22) X-ray radiation transmitted through and diffracted by the sample during a time interval over which the above mentioned movements of the substrate (19) are effected:

35 (Figure 1)