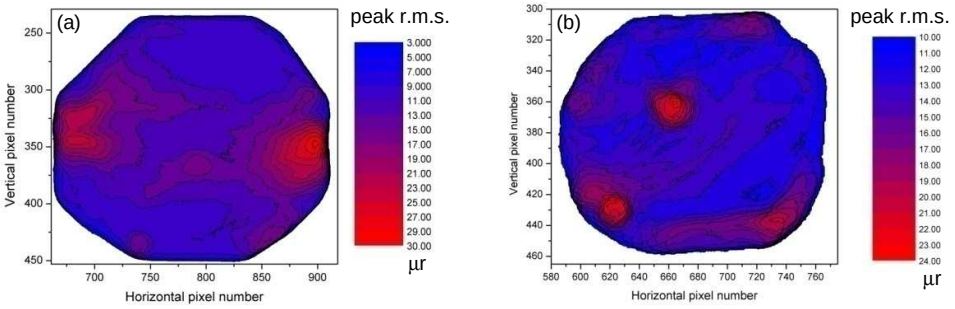

Figure 1. Maps of rocking curve width for the (2,2,0) planes of two diamond crystals, taken under diffraction conditions described in the text. Each pixel subtends a region on the diamond that is 23 microns (horizontal) x 24 microns (vertical).

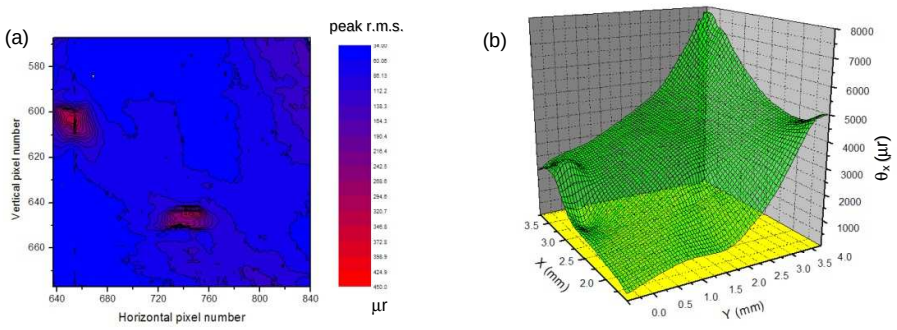

Figure 2. Maps of rocking curve width (a) and peak position (b) of the 20 micron thick diamond described in the text, taken with the (2,2,0) planes. Note that the shift in peak position from pixel to pixel in (b) is large enough that the curvature inflates the peak width measured for a single pixel, especially in the upper right corner of the two figures. The r.m.s. resolution of the camera optics is 2.2 pixels. The horizontal axes in (b) are expressed in mm units to facilitate comparison with Fig. 3.

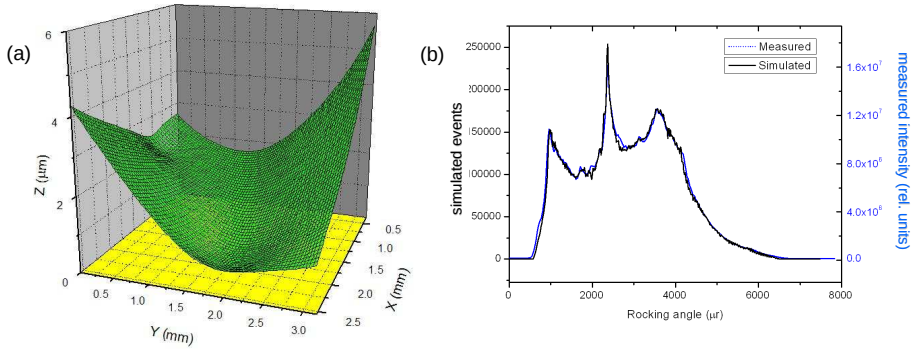

Figure 3. Panel (a) shows the calculated crystal shape of the 20 micron diamond, extracted from analysis of the rocking curve data for the (2,2,0) and (2,-2,0) planes, as described in the text. Panel (b) shows the whole-crystal rocking curves for the 20 micron diamond as measured for the (2,2,0) planes (dotted line) and as simulated using the extracted curvature of the crystal planes shown in Fig. 3. The agreement between these two curves provides a cross-check of the consistency of the method, as well as a qualitative estimate of its systematic error.