

X-ray Imaging of Deep Earth

Frank E. Brenker

Institute for Mineralogy and Geochemistry, University of Cologne, Germany

New developments in X-ray fluorescence imaging made it possible to study the 3-dimensional distribution of main and trace elements at the micron level. The technique was applied to the in situ study of inclusions in diamonds from the deep earth. The detailed study of these inclusions yields surprising and unexpected results about the chemical heterogeneity of the Earth's mantle and the deep recycling of crustal material.