M06.DD Industrial On-Line X-ray Analysis

Chair: M. Bellotto
Co-Chair: D. Taylor

Attendance: 45

This microsymposium dealt with the applications of X-ray analysis to on-line production control and process optimization in a wide range of industrial domains. It has been quite a success in terms of audience, since the attendees increased steadily during the talks, to reach the number of about 50 at the end. This marked the interest in the subjects presented, and in general in the field of the industrial applications of X-ray diffraction techniques. The first talk by Colin Small, Rolls Royce plc, presented the development of an inspection technique of single-crystal turbine blades orientation based on back-reflection Laue geometry. Mary Halliwell, Philips Analytical, talked about routine measurements of hetero-epitaxial layers, and in particular about the most recent advances in automatic fitting procedures. Bernadette Rebours, Institut Français du Pétrole, introduced the use of XRD for process optimization in the petro-chemical industry and heterogeneous catalysis. Applications of on-line XRD for process control in the cement and mining industries were introduced by Maurizio Bellotto, CTG Italcementi Group. Finally, the importance of high-resolution XRD in the development improved device performance, process control and product yield of InP-based fiber-optic communication lasers has been stressed by Joka Vandenberg, Lucent Technologies, who brilliantly showed the interplay between the analytical techniques and the priorities dictated by production. Though such a subject has been a première in a crystallographic meeting, it showed the interest crystallographers bear on the industrial applications of their knowledge, and the variety of domains where the clever use of diffraction techniques results in substantial improvements of the industrial processes.