

## **Dose assessment for working areas in zircon-sand and oil & gas industries**

J. Döring, M. Kümmel, T. Beck, J. Mielcarek and U.-K. Schkade

Federal Office for Radiation Protection, D-10318 Berlin, Germany

To optimise monitoring and/or possible radiation protection measures at work places where natural radioactivity is involved, reliable methods and measurements as well as a realistic dose assessment have to be applied taking into account material matrices, radionuclides involved and work place conditions.

In the presentation, practical results and conclusions will be summarised for two cases studied. The exposure of workers were determined during handling and/or milling of zircon-sand and during cleaning of metal pipes from the oil and gas industries. In both cases the ambient dose rate at several work places and the finger dose of workers were measured too. For the case of zircon-sand milling, the exposure of workers due to inhaled dust were estimated from the measured airborne alpha activity.