

## Abstract

This volume summarizes the major research results of radon risk ( $^{222}\text{Rn}$ ) in geological environment of the Czech Republic. It covers the time period 1990–2008. The introduction chapters comprise the description of the radon studies' significance for human health, brief geological overview of the national territory and history of Radon Programme of the Czech Republic. The following chapters describe different methods used for measurements of radon in soil gas and the instrumentation used for radon and permeability measurements. As the radon measurements are obligatory for building process, the summary of the approved method for detailed building site assessment is presented as well. The second part of the volume deals with radon risk mapping methods, which are applied mainly in targeted indoor radon surveys. Different radon risk mapping programmes performed countrywide are described together with statistical evaluation of radon in particular rocks types. As radon coming from bedrock is considered as a major precursor of radon in dwellings, the comparison of soil gas radon and indoor radon data together with the description of the different geostatistical methods is also presented. The results show the relationship between radon in soil gas and indoor radon concentrations in all rock types and emphasize the role of geological prediction for determining the areas exceeding the guidance levels of indoor radon in dwellings.