

*Environmental Radon*, edited by C.R. Cothorn and J.E. Smith, Jr., Plenum Press, New York, NY, 1987, ISBN No. 0-306-42707-9, pp. 363, price: US\$ 55.00.

The book is a part of an environmental science research series published by Plenum Press. The topic of radon is becoming more important every day as we are learning about health risks of radon in comparison with other pollutants. Before the publication of this book, it was difficult to find a book on radon which could be used as a starting point by an engineer or a scientist newly interested in the field.

The book is divided into nine chapters as follows:

1. Properties
2. History and Uses
3. Measurement
4. Sources
5. Human Exposure
6. Dosimetry
7. Health Effects
8. Mitigation
9. Risk Assessment and Policy

Each chapter is lavishly provided with figures, graphs, tables and references. The material developed by the U.S. Environmental Protection Agency has been used/referred to liberally in the book.

Chapter one contains information on properties of radon and units used for reporting measured concentrations. A brief history of adopting current units and radioactive decay chains involved with radon is a part of this chapter. Chapter two focuses on the history of radon and its uses in areas such as medicine, earthquake prediction and mining.

Measurement of radon in air and in water is the subject of chapter three. Chapter four is focused on different mechanisms for the transport of radon and the sources of indoor radon. The tables and graphs given in the chapter will be useful for getting an idea of the relative contribution of each source to indoor radon levels.

Chapter five is a summary of radon levels humans have been exposed to from occupational sources such as mining and milling activities. The results from some house surveys are also included. The next chapter on dosimetry describes the mathematical and medical-health aspects. The focus of this chapter is on dosimetry of the lung. A brief discussion on ingested radon is also included.

Health effects of radon are given in chapter seven. The discussion is supported by data collected during studies on animals and humans. Control of indoor radon levels is included in chapter eight. The discussion includes an overview of four mitigation techniques, evaluation of sources for radon and possible options for a homeowner. The advantages and disadvantages for each option are also given.

Chapter nine focuses on risk assessment and policy issues related to radon. New material on this has appeared in literature since the publication of the book. However, one can get the overall picture on the risk associated with radon exposure.

The book includes a glossary related to radon and a general bibliography. The index is also helpful. Two appendices are also a part of the book. The first appendix is on the derivation of equations related to radioactive decay and the second appendix is a quick source of SI conversion factors for units used in this area.

The book is written by nine individuals. However, consistency is maintained throughout the book. It is easy to read the material. A detailed discussion on variables such as building construction characteristics and air exchange rate influencing indoor radon concentration and mitigation precautions taken before and during construction of a new building can be expanded/added in future additions to the book.

Overall, I enjoyed reading the book. It will be useful as a reference for those who are involved in radon work. It will also be a good continuing education tool for those scientists and engineers who are trying to keep up with rapid developments in the area of environmental science. The book can be used as supplementary reading in a course on indoor air quality at a university.

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