



## Human Exposure to Electromagnetic Fields

### From Extremely Low Frequency (ELF) to Radio Frequency

Patrick Staebler,

ISBN: 9781786301215

Publication Date: May 2017

#### Description

Everyone, whether they like it or not, is exposed to electromagnetic fields, most of the time, at very low levels. In this case, they are inconsequential, but they can cause adverse health effects when they become intense enough. This topic is complex and sensitive.

Covering frequencies from 0 Hz to 300 GHz, Human Exposure to Electromagnetic Fields provides an overview of this vast topic. After a reminder of the concepts of electromagnetic fields, the author presents some examples of sources of radiation in daily life and in the industrial or medical sectors. The biophysical and biological effects of these fields on the human body are detailed and the exposure limits are recalled. The exposure assessment and the implementation of the appropriate regulation within companies are also covered.

Technically and practically, this book is aimed at people with a scientific background, risk prevention actors, health physicians, especially occupational doctors, and equipment designers.

#### Contents

1. Concepts of Electromagnetic Fields.
2. Sources of Electromagnetic Fields.
3. Biophysical Mechanisms.
4. Biological Effects of Electromagnetic Fields.
5. Exposure Limits for Electromagnetic Fields.
6. Exposure Indices.
7. Applications of Exposure Indices.
8. Exposure Assessment.
9. Implementation of Directive 2013/35/EU.

#### About the Author

Patrick Staebler is an advisor to companies concerned about exposure to electromagnetic fields in implantation of regulations (e.g. Directive 2013/35/UE), in the design of their products (intended for the general public and professionals) and the preparation of certificates of compliance. He is also a member of the French Society of Radiation Protection, non-ionizing radiation section (SFRP-RNI).