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3.5.1 Heterodyne Measurements of Frequency; 3.5.2 Self-heterodyning;
 3.5.3 Aliasing; 3.6 Frequency Stabilization with a Noisy Signal; 3.6.1
 Degradation of the Frequency Stability Due to Aliasing; 4 Macroscopic
 Frequency References; 4.1 Piezoelectric Crystal Frequency References;
 4.1.1 Basic Properties of Piezoelectric Materials; 4.1.2 Mechanical
 Resonances; 4.1.3 Equivalent Circuit; 4.1.4 Stability and Accuracy of
 Quartz Oscillators; 4.2 Microwave Cavity Resonators; 4.2.1
 Electromagnetic Wave Equations; 4.2.2 Electromagnetic Fields in
 Cylindrical Wave Guides; 4.2.3 Cylindrical Cavity Resonators
 4.2.4 Losses due to Finite Conductivity; 4.2.5 Dielectric Resonators; 4.3
 Optical Resonators; 4.3.1 Reflection and Transmission at the Fabry-
 Perot Interferometer; 4.3.2 Radial Modes; 4.3.3 Microsphere
 Resonators; 4.4 Stability of Resonators; 5 Atomic and Molecular
 Frequency References; 5.1 Energy Levels of Atoms; 5.1.1 Single-
 electron Atoms; 5.1.2 Multi-electron Systems; 5.2 Energy States of
 Molecules; 5.2.1 Ro-vibronic Structure; 5.2.2 Optical Transitions in
 Molecular Iodine; 5.2.3 Optical Transitions in Acetylene; 5.2.4 Other
 Molecular Absorbers
 5.3 Interaction of Simple Quantum Systems with Electromagnetic
 Radiation; 5.3.1 The Two-level System; 5.3.2 Optical Bloch Equations;
 5.3.3 Three-level Systems; 5.4 Line Shifts and Line Broadening; 5.4.1
 Interaction Time Broadening; 5.4.2 Doppler Effect and Recoil Effect;
 5.4.3 Saturation Broadening; 5.4.4 Collisional Shift and Collisional
 Broadening; 5.4.5 Influence of External Fields; 5.4.6 Line Shifts and
 Uncertainty of a Frequency Standard; 6 Preparation and Interrogation of
 Atoms and Molecules; 6.1 Storage of Atoms and Molecules in a Cell;
 6.2 Collimated Atomic and Molecular Beams
 6.3 Cooling

Sommario/riassunto

Of all measurement units, frequency is the one that may be determined with the highest degree of accuracy. It equally allows precise measurements of other physical and technical quantities, whenever they can be measured in terms of frequency. This volume covers the central methods and techniques relevant for frequency standards developed in physics, electronics, quantum electronics, and statistics. After a review of the basic principles, the book looks at the realisation of commonly used components. It then continues with the description and characterisation of important frequency standards

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Sommario/riassunto	The use of scientific computing tools is currently customary for solving problems at several complexity levels in Applied Sciences. The great need for reliable software in the scientific community conveys a continuous stimulus to develop new and better performing numerical methods that are able to grasp the particular features of the problem at hand. This has been the case for many different settings of numerical analysis, and this Special Issue aims at covering some important developments in various areas of application.