



DOWNLOAD



Terahertz Time-Domain Spectroscopy Systems for Fundamental and Industrial Applications

By Michael Theuer

Cuvillier Verlag Jul 2009, 2009. Taschenbuch. Condition: Neu. Neuware - The terahertz (THz) band between 100 GHz and 10 THz is particularly interesting for a wide range of applications since it unifies the properties and advantages of the adjoining spectral ranges, the infrared and the millimeter waves. But unfortunately in this spectral range the optical as well as electronic systems can not offer a sufficient performance in terms of power and sensitivity. So in both approaches, new sources and detectors are developed to expand the accessible electromagnetic spectrum into the THz range. In this thesis new developments in the field of optical THz systems for THz time-domain spectroscopy (TDS) are investigated using femtosecond pulses for the coherent generation and detection. New schemes for THz emitters are elaborated. The main aim is to obtain a THz source with high output power in the frequency range between 100 GHz and 4 THz for femtosecond pumped systems. In a cooperation with the RIKEN Institute in Japan an enhancement cavity for the pump radiation is developed. This is an actively stabilized synchronously pumped ring resonator which recycles the unused pump radiation. As THz emitter a lithium niobate crystal in Cherenkov-type geometry is applied. Lithium niobate...



READ ONLINE
[6.24 MB]

Reviews

Extensive guide! Its such a excellent read. This can be for anyone who statte that there was not a worth looking at. I am just effortlessly will get a satisfaction of looking at a written publication.

-- **Melvin Hettinger**

This book will not be effortless to start on reading through but very exciting to learn. It is amongst the most remarkable book i have got go through. Once you begin to read the book, it is extremely difficult to leave it before concluding.

-- **Dr. Easton Collier DVM**