



Broadband Source for Coherent Anti-Stokes Raman Scattering

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Condition: New. Publisher/Verlag: LAP Lambert Academic Publishing | Theory and Construction | The central theme of research in this monograph is the development of a laser light source for use in a type of nonlinear spectroscopy termed "Coherent Anti-Stokes Raman Scattering" or CARS. CARS is a method of achieving resonantly enhanced signals from a sample that is specific to the molecular nature of a substance. It requires two coherent laser beams of sufficient intensity to drive the process. In this work, a broadband source is constructed and characterized to investigate the CARS process. Frequency conversion by means of high power lasers in optical fibers are explored to provide broadband tunability. Using this source, the different characteristics of the CARS process for three different molecules are presented. The results obtained are used to develop further novel all-fiber optic sources for the purpose of CARS. | Format: Paperback | Language/Sprache: english | 156 pp.

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