

Multiwave-Mixing Spectroscopy in an Atomic Vapor

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In this talk I present a theoretical and experimental study of various nonlinear laser spectroscopies where two or more laser fields are involved and optical wave-mixing occurs. First, I will present how to solve density matrix equations and how to obtain the susceptibility of the measured laser light. Then, I will talk on detailed studies of electromagnetically induced transparency and absorption, modulation transfer spectroscopy, polarization and saturation spectroscopy, and sub-Doppler DAVLL. Finally, I will present a brief summary of analytical study of optical pumping and its application to laser spectroscopy