

70. Title: Interpretation of ultrafast pump-probe terahertz experiments in the time domain: How to exploit two-dimensional correlations

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Abstract: Optical-pump-terahertz-probe spectroscopy has the potential to distinguish between several classes of carrier motion, among others high-frequency oscillatory motion, free motion, and quasifree motion within bounded domains. We present a simplified formalism, applicable to thin samples, which allows identification of these three classes of photoexcited species on basis of the two-dimensional correlations in the time-domain experimental data.