Study of the Lifetime of Cold Dipolar Excitons

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Abstract

We present an approximate analytical formula which determines the lifetime of a Dipolar Exciton as a function of the emitted photon's energy. The formula is then confirmed by a time-resolved measurement of the intensity and energy of the light emitted from a decaying population of cold dipolar Excitons. In addition, some core properties of the formula are studied through comparison with the results of a numerical simulation of the decay process. These results experimentally confirm the basis for the analysis presented previously in [1,2].

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