

## Analysis and Applied Mathematics Seminar

*On a dissipative Gross-Pitaevskii-type model for exciton-polariton condensates*

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**Abstract:** We study a generalized dissipative Gross-Pitaevskii-type model arising in the description of exciton-polariton condensates. We derive rigorous existence and uniqueness results for this model posed on the one dimensional torus and derive various a-priori bounds on its solution. Then, we analyze in detail the long time behavior of spatially homogenous solutions and their respective steady states. In addition, we will present numerical simulations in the case of more general initial data. We also study the corresponding adiabatic regime which results in a single damped-driven Gross-Pitaveskii equation and compare its dynamics to the one of the full coupled system.

Joint work with C. Sparber, P. Antonelli, P. Markowich, and J. Sierra

Monday, February 4 at 4:00 PM in 636 SEO