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## Dynamical Microcavity Exciton-Polariton Condensates

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Microcavity exciton-polaritons are hybrid quantum quasi-particles as an admixture of cavity photons and quantum well excitons. The inherent light-matter duality provides experimental advantages to form coherent condensates at high temperatures (e.g. 4 K in GaAs and room temperature in GaN materials) and to access the dynamics of exciton-polaritons. I present engineered exciton-polariton-lattice systems, where we seek the beauty of non-zero momentum boson order arising from the intrinsic open-dissipative nature of the condensate as well as the topology of lattices. I envision that the dynamical polariton-lattice systems will be an intellectual interface, where we may address wondrous quantum many-body problems in the light-matter domain.

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