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## Towards analogue black hole merger

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We study the effects of the wavevector-dependent losses on polariton condensates. We demonstrate that because of these losses, a single vortex becomes a center of a convergent flow, which allows describing it by an analogue Kerr black hole metric with a dynamically evolving origin. For a pair of vortices, we find an analogue of the 3rd Kepler's law and estimate the emission rate of the gravitational waves. We simulate an analogue of the inspiral phase of a black hole merger. Our work therefore suggests that polariton condensates with quantum vortices represent a setting with a fully self-consistent dynamical metric for broad analogue studies.

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