

## Gravitational waves or X-ray counterpart ? No need to choose.

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### Abstract

Binary black holes emit gravitational waves (GWs) as they inspiral towards coalescence. Searches for electromagnetic counterparts to GWs rely on looking for common sources producing both waves. Here, we take a different approach: we investigate the impact of radiation zone effects including retardation effects associated with GWs onto the outer circumbinary disk around stellar-mass black holes, using general relativistic hydrodynamical simulations and a general relativistic ray-tracing code. We show that radiation zone effects leave an imprint onto the disk, leading to quasi-periodic patterns in the X-ray lightcurve.

My poster is available at <https://zenodo.org/record/7257054#.Y6l-K-zMIfF>