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Gravitational waves from magnetar glitches and anti-glitches

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In this talk, I will introduce a simple toy model that can simultaneously explain magnetar glitches and anti-glitches. It is based on the idea of mass ejection from the magnetar and how, as a result of the ejecta being trapped by the magnetic field, a time-varying mass quadrupole moment is established leading ultimately to gravitational wave emission. I will use astrophysical arguments to argue that the continuous gravitational waves emitted will be transient (˜ few days) in nature and I will comment on whether it will be detectable with future decihertz detectors, like DECIGO and the Big Bang Observer.

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