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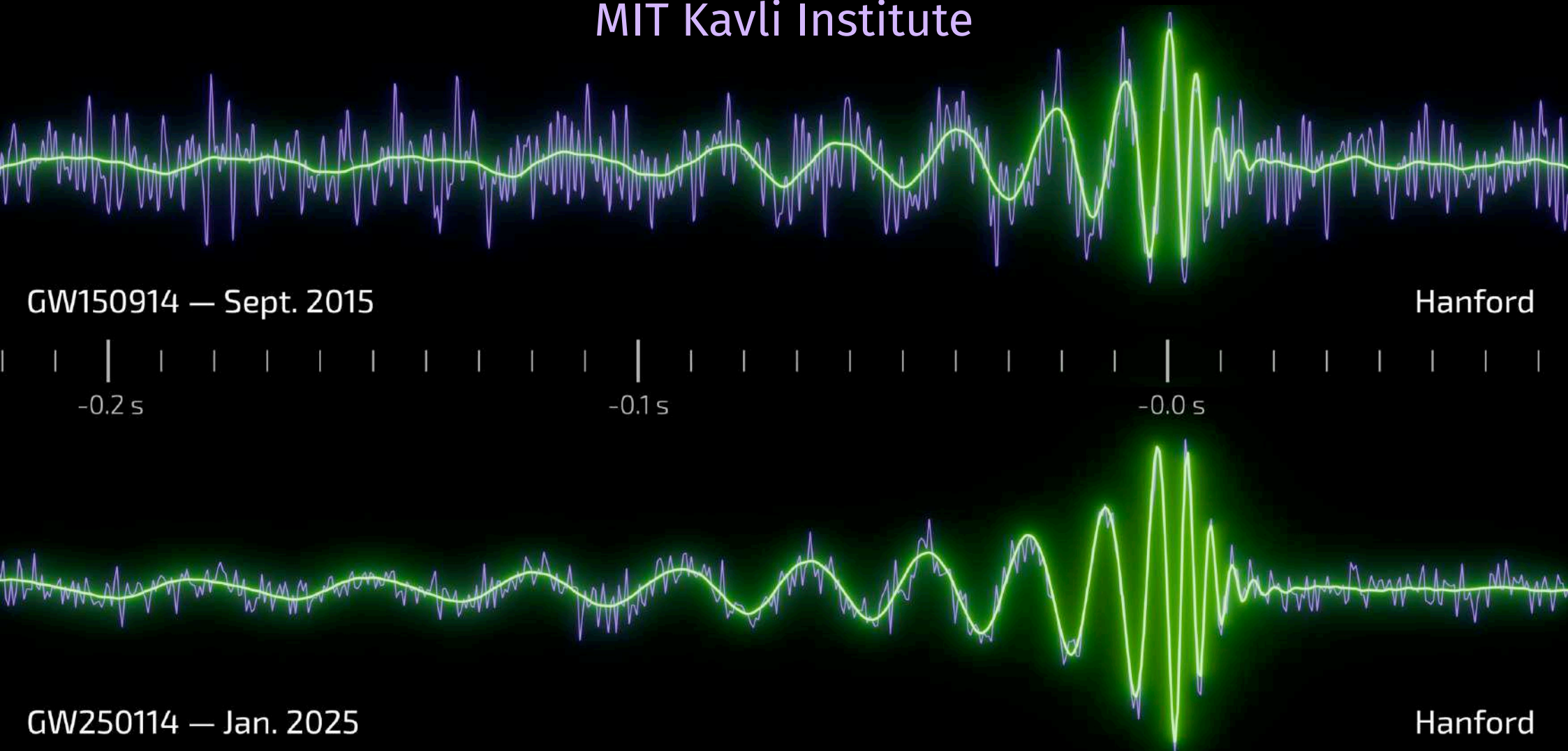
APC colloquium

Friday, October 17th at 11am

Room Klimt, 366A

Peter Fritschel

MIT Kavli Institute



LIGO and gravitational wave astronomy: ten years after the first detection

Ten years ago LIGO made the first direct detection of gravitational waves, emitted by the merger of two black holes about 1.3 billion years ago. Now, over 300 gravitational wave events have been observed by the LIGO-Virgo-KAGRA collaborations. Earlier this year, gravitational waves were detected from a black hole merger very similar to that first event in 2015, but this time with three times higher signal-to-noise ratio. This was thanks to the improvements in sensitivity that have been achieved in LIGO and Virgo in the past decade. I will talk about the LIGO detector improvements that got us to this point, and the plans for future improvements and observing runs.