PAiP-2025 conference "Particle Astrophysics in Poland"



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Searching for exceptional gravitational-wave sources in the LIGO-Virgo-KAGRA data

Friday, 21 February 2025 10:20 (15 minutes)

The emerging field of Gravitational Wave Astronomy has already demonstrated its potential to explore the Dynamic Universe. We are just at the beginning of exploring the Universe with gravitational waves. While LIGO-Virgo-KAGRA regularly observes gravitational waves from compact binaries, we do not know what we may discover next. We may observe new source populations, multi-messenger events, sources with special properties, etc. Such exceptional astrophysical sources will likely play a key role in this endeavor of exploring the Universe. In my presentation, I will discuss searches for gravitational waves and focus on the model-independent searches that have already shown that they are suitable for making discoveries. I will also announce an incoming LIGO-Virgo-KAGRA workshop in Warsaw that I am organizing.

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