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Real time analysis for multi-messenger astrophysics

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The detection of the first multimessenger event, GW170817, highlighted the impact multimessenger analysis can have on our understanding of extreme phenomena in the universe. Real-time analysis in multimessenger astrophysics represents a significant advancement, enabling prompt and coordinated observations across various observatories and instruments. This progress relies on integrating advanced computational techniques, real-time data processing algorithms, and efficient software architecture. Real-time analysis facilitates the rapid localization, characterization, and cross-validation of astrophysical sources, thereby accelerating scientific discoveries and enabling timely responses to transient events. We will present the project Wavefier, a prototype for real-time gravitational wave transient signal classification, which can serve as the infrastructure for the multimessenger data analysis.

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