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Multi messenger astronomy: latest results from the Fink broker

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The upcoming Vera C. Rubin Observatory with its deep and wide survey of the sky will revolutionize the time domain astronomy. Compared to current sky surveys such as the Zwicky Transient Facility (ZTF), the Rubin Observatory will provide a volume of transient and variable objects at least ten times larger, reaching ten million transient alerts per night. To overcome this challenge, the Fink alert broker has been designed to handle the processing of the Rubin alert stream in real-time.

In this talk, we will cover the status of Rubin's brokers, and in particular the latest results from Fink on ZTF alert data. We will explicitly focus on the real-time multi-messenger astronomy effort carried out in the collaboration. We will describe the preliminary results in searching for real-time coincidences between ZTF alerts and events distributed via the General Coordinates Network (GCN) circulars, and the prospects for Rubin.

Finally, we will describe a new network of telescopes, GVOM, dedicated to the follow-up of alert data from the Fink broker. The GVOM network is a partnership between Fink and the SVOM mission focusing on fast transients.

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