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Identifying electromagnetic transients related to gravitational-wave emission CINTHIA PADILLA, California State University Fullerton, THE LIGO SCIENTIFIC COLLABORATION, THE VIRGO COLLABORATION — Over the past several years the LIGO, Virgo and GEO600 gravitational-wave detectors have operated together as a worldwide network. The combined data from these detectors allows sky localization of astrophysical gravitational-wave sources. By running searches for transient gravitational waves shortly after the data is taken, sky locations can be communicated to electromagnetic observers early enough to allow measurement of any electromagnetic emission in the aftermath of a strong gravitational-wave signal. By measuring both the gravitational and the electromagnetic radiation we can learn a significant amount about their source. Over the past year, electromagnetic images of sky locations corresponding to low-threshold gravitational-wave triggers have been acquired. These are now being analyzed for optical transients. Challenges include unrelated disturbances such as asteroids, satellites, clouds and other objects in space. In this poster we describe the procedure for identifying EM transients with a developed pipeline designed to compare images and sky catalogs to distinguish stars in nearby galaxies and reject background events.

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