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Astrophysically Triggered Searches for Gravitational Waves ZSUZSA MARKA[1], Columbia University, LIGO SCIENTIFIC COLLABORATION, VIRGO COLLABORATION — Many expected sources of gravitational waves are observable in more traditional channels, via gamma rays, X-rays, optical, radio, or neutrino emission. Some of these channels are already being used in searches for gravitational waves with the LIGO-GEO600-Virgo interferometer network, and others are currently being incorporated into new or planned searches. Astrophysical targets include gamma-ray bursts, soft-gamma repeaters, supernovae, and glitching pulsars. The observation of electromagnetic or neutrino emission simultaneously with gravitational waves could be crucial for the first direct detection of gravitational waves. Information on the progenitor, such as trigger time, direction and expected frequency range, can enhance our ability to identify gravitational wave signatures with amplitude close to the noise floor of the detector. Furthermore, combining gravitational waves with electromagnetic and neutrino observations will enable the extraction of scientific insight that was hidden from us before. We will discuss the status for astrophysically triggered searches with the LIGO-GEO600-Virgo network and the science goals and outlook for the second and third generation gravitational wave detector era.

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