Searches for Continuous Gravitational Waves in LIGO and Virgo Data

KEITH RILES, Univ of Michigan - Ann Arbor, LIGO SCIENTIFIC COLLABORATION COLLABORATION, VIRGO COLLABORATION COLLABORATION — The LIGO Scientific Collaboration and Virgo Collaboration have carried out searches for periodic continuous gravitational waves. These analyses range from targeted searches for gravitational-wave signals from known pulsars, for which precise ephemerides from radio or X-ray observations are available, to all-sky searches for unknown neutron stars, including stars in unknown binary systems. Between these extremes lie directed searches for known stars of unknown spin frequency or for new unknown sources at specific locations. These different types of searches will be presented, including final results from the Initial LIGO and Virgo data runs and, where available, new results from searches of early Advanced LIGO data.

1This work is supported by the National Science Foundation grant PHY-1505932