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Cas A and friends: directed searches for continuous gravitational waves from isolated neutron stars BENJAMIN OWEN, Pennsylvania State Univ, LIGO SCIENTIFIC COLLABORATION, VIRGO COLLABORATION — We present the status of searches for continuous gravitational waves from the central compact object in supernova remnant Cassiopeia A and eight other young suspected neutron stars whose positions are known well enough to use a single barycentric correction per object. All objects have age estimates less than a few thousand years, young enough that r-modes could still be active. The searches coherently integrate from five to twenty-five days of the LIGO S6 data run and cover gravitational wave frequency bands of varying widths from 140 Hz to 2 kHz so that each requires a similar computational cost, which is about 1/3 that of the published LIGO search for Cassiopeia A due to the use of SSE2 floating point extensions. The objects are chosen so that each search can detect a neutron star in the band if its (unknown) spin-down has been dominated by gravitational-wave emission since birth.

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