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**Coherent wide parameter space searches for gravitational waves from neutron stars using LIGO S2 data** XAVIER SIEMENS, University of Wisconsin – Milwaukee, LIGO SCIENTIFIC COLLABORATION — The LIGO Scientific Collaboration is involved in two coherent wide parameter space searches for gravitational wave signals produced by rotating neutron stars. One of them is a search for gravitational waves from the low mass X-ray binary SCO X-1. The other is a blind search, over the entire sky and a wide range of frequencies, for continuous signals from isolated sources. Here we present an overview of the two data analysis methods, and apply them to LIGO data taken during the second science run (S2).

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