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Applying the TwoSpect X-Statistic to Searches for Continuous Gravitational Waves ANSEL NEUNZERT, KEITH RILES, Univ of Michigan - Ann Arbor — Non-axisymmetric spinning neutron stars are expected to emit near-monochromatic gravitational waves, which will be frequency modulated if the star is part of a binary system. This modulation requires a large expansion of the search parameter space for templated search methods, and brings with it greatly increased computational cost. Here we discuss a technique, developed for use with a pre-existing templated search method called TwoSpect, which samples parameter space more sparsely than the original method in order to achieve an intermediate balance of sensitivity and computational cost. We also discuss prospects for, and progress toward, the use of this technique in directed searches for high-latitude unassociated Fermi-LAT sources.

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