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Large scale data analysis in pursuit of gravitational waves¹ VLADIMIR DERGACHEV, Max Planck AEI/Golm — Continuous gravitational waves are expected to be emitted by rotating neutron stars. Because CW amplitudes are thought to be extremely weak, long time integrations must be carried out. With the sources described by multi-dimensional parameter spaces, such searches are computationally limited. We will discuss how large computer clusters are used to search for such sources and describe mathematically rigorous algorithms used to deal with non-Gaussian data and detector artifacts.

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