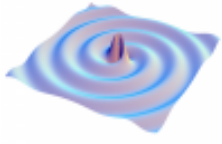# Continuous wave upper limits: from data to science

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Isolated, known pulsar science addressed

- Determine an upper limit on GW strain or energy radiated in GW?

- Stage I:

  – Identify instrumental features not to be confused (LDAS/LAL/LALWrapper)

  – Filter the GW signal to obtain SNR (LDAS/LAL/LALWrapper)

- Product: SNR in strain for a single source

Isolated, known pulsar science addressed

- Stage III: statistical analysis

  - h^* s.t $P[h_{\mathrm{pulsar}} > h^* | \mathrm{data}] = 0.9$

  - This needs two things

    1. characterization of noise distribution

    2. simulation of signals in noise of same character

- Different than setting limit on event rate.

- Statement of confidence about amplitude:

  - needs accurate characterization of noise statistics

  - signal injection not needed from population