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Particle Swarm Optimisation in GW signal Detection

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Particle Swarm Optimisation (PSO) is a Stochastic maximisation scheme which quickly converges to global maxima. We apply PSO to maximise the match between the GW signal and the modelled template waveform. One of the advantages of PSO-based detection is that we do not need pre-determined template placement, which allows the search to be extended to an arbitrary parameter space. In contrast to standard search methods, the parameter estimated at the search is accurate. We present our analysis of GW detection using the PSO algorithm.

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