## LSC D MATCH MATCH' Manifold to Accelerate Template Bank Generation

Introducing LearningMatch and TemplateGeNN...

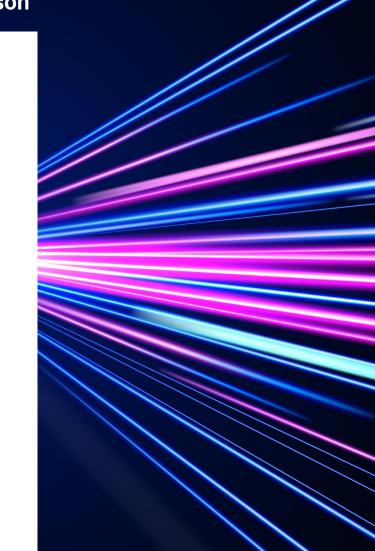
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LearningMatch: The Aim



## Template 1 Mass 1 Mass 2 Spin 1 Spin 2 Match $= \max_{\phi_c, t_c}$ Femplate 2: Mass 1 Mass 2 Spin 1 Spin 2 [emplate Mass 1 Mass 2 Spin 1 Spin 2 Match Template 2 Mass 1 Mass 2 Spin 1 Spin 2

Figure 1: The aim of LearningMatch is to learn the mathematical relationship between the template parameters (specifically the mass and aligned spin of the black holes) and the 'match'.





## **TemplateGeNN: The Results**

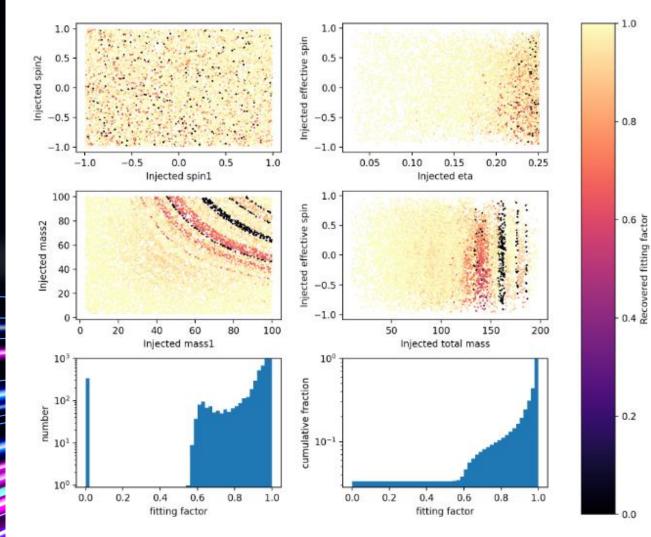


Figure 2: Results from PyCBC template bank verifier.

pikisuperstar on Freepik Image by

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