GW190521 Factsheet

Observation of intermediate mass black hole formation

Most massive binary detected to date

Primary companion in the pair instability supernovae mass gap

Detectors observed:LIGO Hanford,
LIGO Livingston,
and Virgo

Binary Black Holes

Date: May 21st 2019

Source Type:

Merger Time: 03:02:29 UTC

Network SNR:

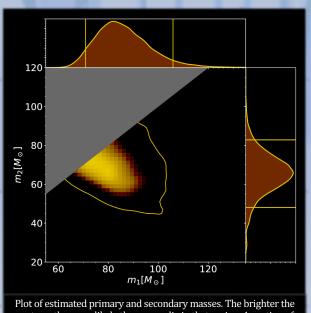
FAR: 1 in 4900 years

Distance: 2.7 – 7.7 Gpc

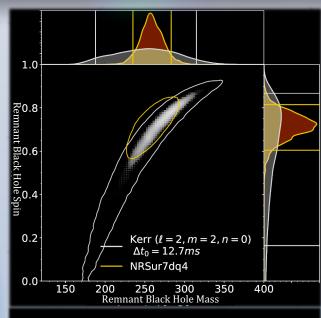
Redshift: 0.48 – 1.1

Primary Mass: 85 M_o

Secondary Mass: 66 M_☉



Plot of estimated primary and secondary masses. The brighter the contour, the more likely the masses lie in that region. A portion of the plot is excluded with the convention that m1>m2.



Plot of estimated redshifted remnant black hole mass and remnant spin. The brighter the contour color, the more likely that the mass and spin lie in that region.

Mass ratio:	0.8

Remnant IMBH's 142 M_{\odot} Mass:

Spin of Remnant 0.7

GW cycles: 4 cycles

Peak Signal 60 Hz

Frequency:

Signal Duration: 100 milliseconds



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