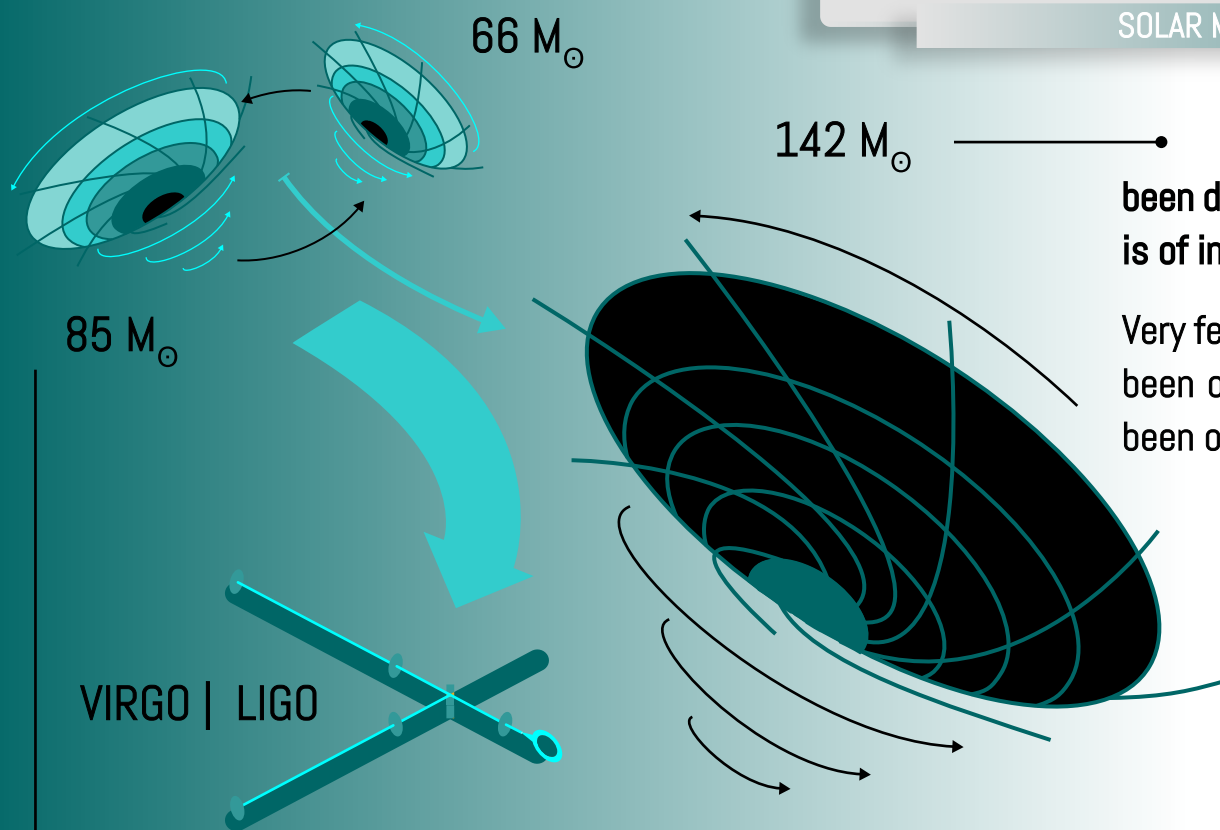
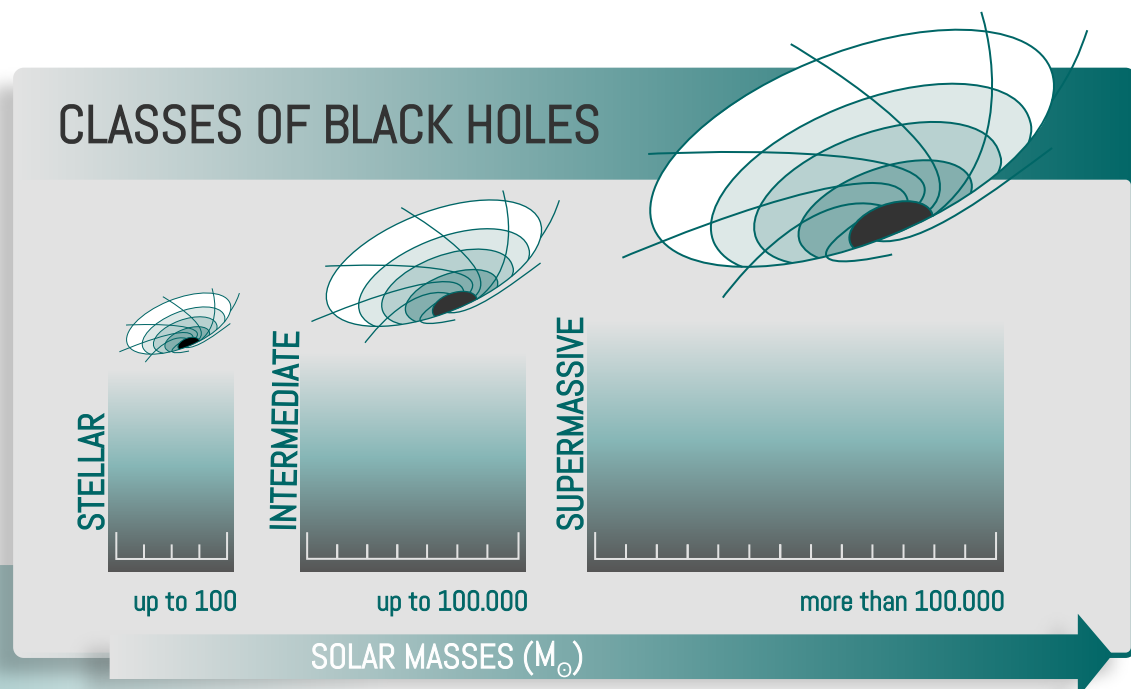


NEW POPULATION of BLACK HOLES

Around 7 billion years ago, two extraordinarily massive black holes fused into a **142 M_{\odot} black hole**, generating the gravitational signal detected by VIRGO and LIGO on the 21st of May, 2019: GW190521.



- The resulting black hole is the largest to have been detected up to now with gravitational waves and is of intermediate mass.

Very few of these intermediate-mass black holes have been observed so far and, until now, they have never been observed with gravitational waves.



- The form of the GW190521 signal suggests that the two black holes rotated rapidly around one another, probably in a star cluster or in the accretion disk of an active galactic nucleus (AGN).

PAIR INSTABILITY MASS GAP

The masses of the two primary black holes are found within an interval of mass that models of star evolution consider impossible.

Above a certain threshold of its core, ($> 60 M_{\odot}$ and $< 130 M_{\odot}$) the more massive star should dissolve and not generate black holes.

$> 60 M_{\odot}$