Gravitational waves: a new way to study stars

Only 6 years after the first direct detection of gravitational waves, almost a hundred coalescences of binary black holes and/or neutron stars have been detected. With these detections, we have a unique view on the final remnants of massive stars. In this talks I will explain what we learn form the properties of the observed mergers (rate, mass spectrum, spin measurements...). I will particularly focus on the aspects of stellar evolution such as mass loss, binary interactions or supernova explosions. I will explain how we will be able to infer crucial parameters as our sample increases with improved detectors. Finally, I will explain what the LISA mission will be able to tell us about white dwarf binaries in our Milky Way.