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1 Intro

1.1 Importance of binaries

- Plays a key role in the evo of massive stars
- first presumed to exist because of **Algol Type** stars. These stars were explained with mass transfer
- source of strongest GW rad, GrBs, and have r-process elements.
- Likely cause of SNe Ia, Ib, Ic (SN with a lack of hydrogen in their spectra)
- cause of low-intermediate mass stars with odd chemical compositions, ex. barium stars

1.2 Kilonova

- allows exact placing of a merger in the sky

1.3 XrBs

- Without mass transfer, most systems would not survive the SN of the primary, instead becoming unbound

Glossary

Algol Type Type of eclipsing binary with properties similar to the Algol system. It appears paradoxical because the more evolved star has a smaller mass, explained by mass transfer. [1](#)