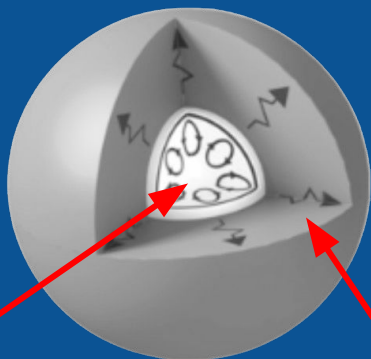


# Observational hints of past binary-interaction in He-rich Main Sequence Massive Stars from an anomalous surface abundance pattern

## What are Main Sequence Massive Stars?

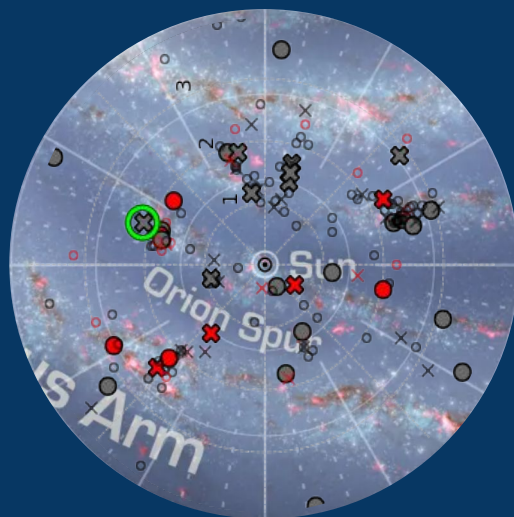
Stars with  $M > 8 M_{\odot}$  fusing hydrogen in their core through the CNO-cycle



Convective core

Radiative envelope

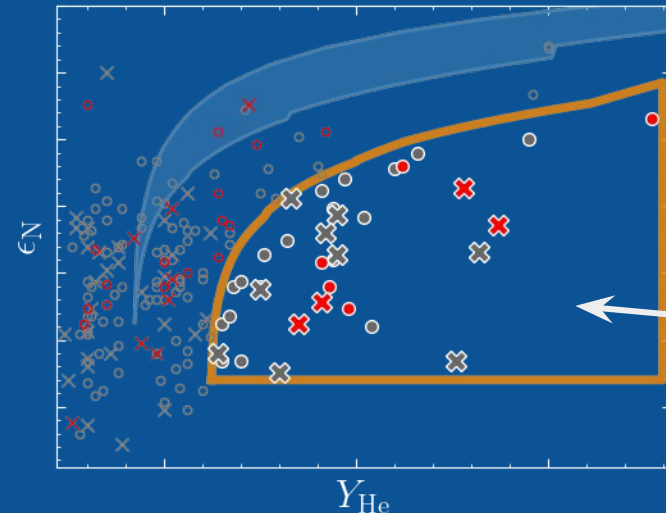
## Our sample



179 O Main Sequence stars in the Solar Neighborhood

## Our result

Because of the CNO-cycle: faster Nitrogen than Helium enrichment



36 stars (~20% sample)

~20% with inconsistent N-He pattern  
**Possible Binary Interaction Products**



Based on [Helium enrichment in O-type stars as a tracer of past binary interaction](#)

C. Martínez-Sebastián, S. Simón-Díaz, H. Jin, Z. Keszthelyi, G. Holgado, N. Langer, J. Puls

