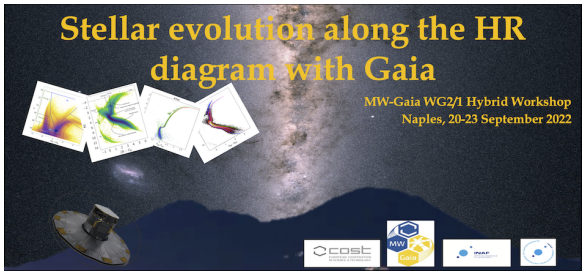

Contribution ID: **71** Type: **not specified**

Milky Way helium enrichment constrained by red clump stars

Thursday, 22 September 2022 15:00 (20 minutes)

The helium mass fraction, Y, is an important constraint in stellar models. For low mass stars, its value is usually estimated by assuming a linear helium-to-metal enrichment ratio, DY/DZ, and so obtaining Y from the measured metal mass fraction, Z. However, the behaviour of DY/DZ is uncertain, and varies significantly between methods presented in the literature.
We use the luminosity of red clump (low-mass, core helium-burning) stars as a proxy for Y, and so investigate the helium enrichment history. The approach combines asteroseismic results from Kepler with spectroscopy from APOGEE and astrometry from Gaia to allow red clump stars to be used in this way for the first time.

Presenter: WILLETT, E.

Session Classification: White dwarfs - Asteroseismology - Binaries