



Contribution ID : 8

Type : **Contributed talk**

Exploring Convective Boundary Mixing Through Stellar Pulsations

Wednesday, 28 October 2026 13:45 (10)

Convective boundary mixing occurs at the boundaries between convection and radiation zones in stars, where the material in the convection zone crosses the convective boundary. This can change the location of the convective boundary and bring more hydrogen into the core of the star, which has many effects on its evolution, including an extended main sequence lifetime. We use 1D stellar evolution code MESA (Modules for Experiments in Stellar Astrophysics) to make models of stars with various convective boundary mixing processes, and calculate pulsation frequencies for the models with the GYRE stellar oscillation code. We then use the pulsation frequencies of the models to compare the effects of these different processes, and their implementations in MESA, on the star. Our goal is to find some difference caused by the different convective boundary mixing processes that could potentially be observed in real stars. This will help us understand how these processes occur in stars, enabling more accurate predictions of stellar evolution.

Did you give a contributed talk at CASCA 2026?

No

If you are selected for a poster, would you be interested in giving a short flash talk on your work?

Yes

What is your career level?

Undergraduate

Which keyword describes the area of focus of this talk?

Stars & stellar clusters

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Session Classification : Exoplanets & Stars