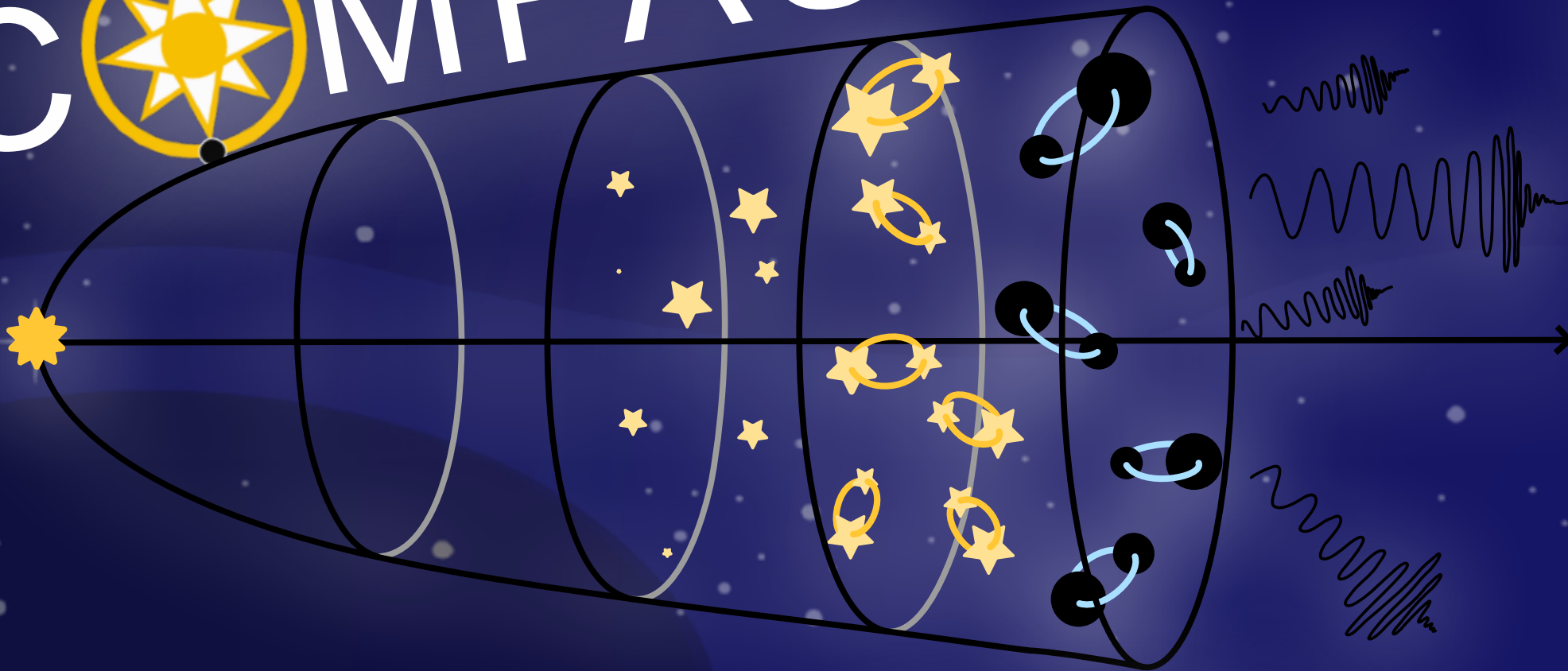


# Forward (simulator) modelling

*A surrogate model for COMPAS*

COMPAS



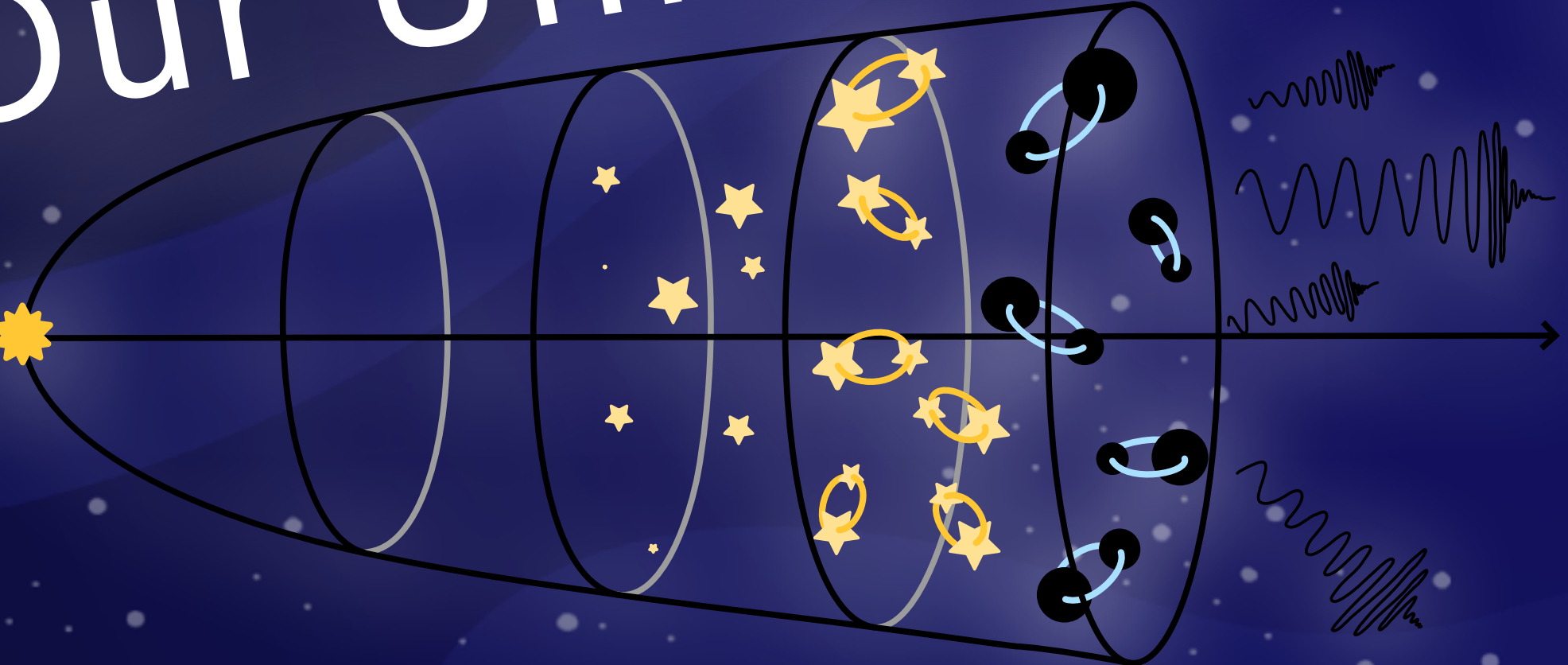
Simulated  
Population

Riley+Mandel, '23  
arXiv:2303.00508



TensorFlow

Our Universe



Observed  
Population



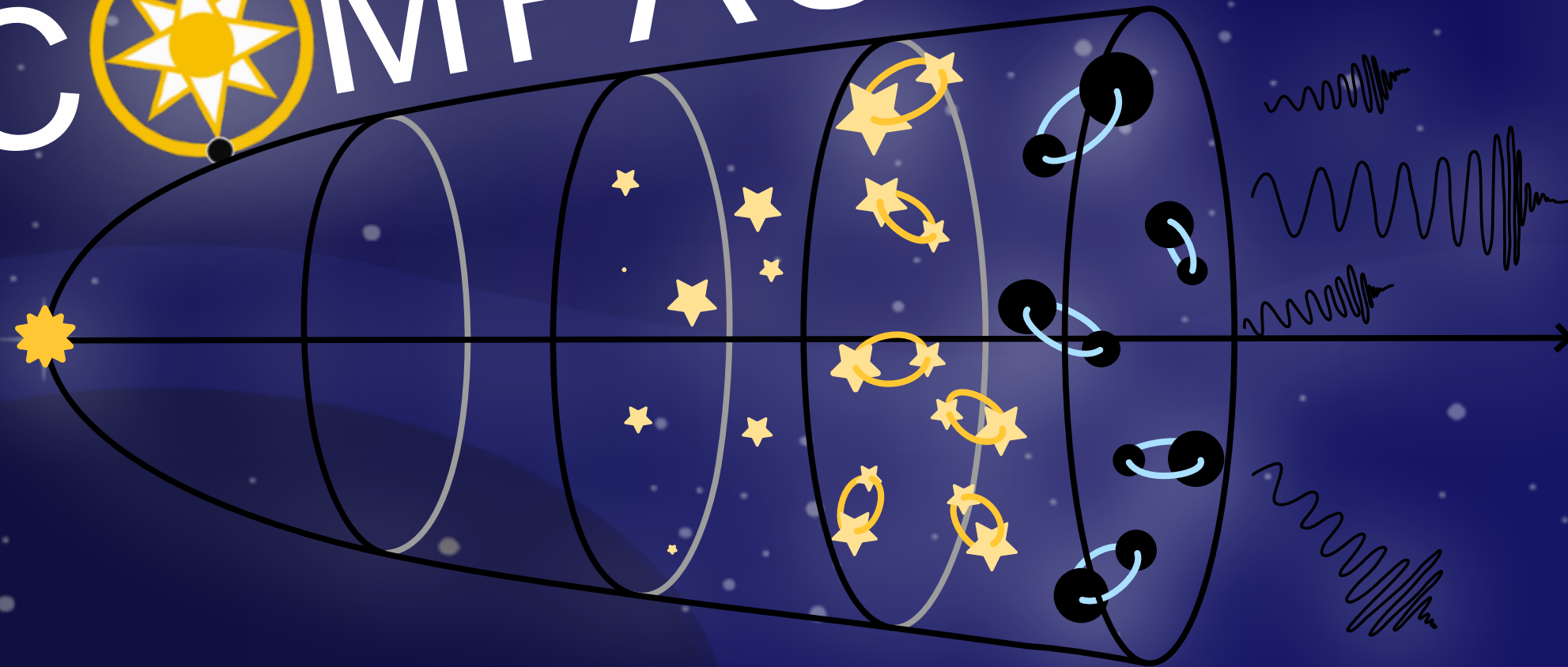
$$L(\mathcal{D} \mid \text{COMPAS parameters})$$



# Forward (simulator) modelling

*A surrogate model for COMPAS*

# COMPAS



Simulated  
Population

Riley+Mandel, '23  
arXiv:2303.00508



TensorFlow

$L(\mathcal{D} \mid \text{COMPAS parameters})$

- Four dimensions
- Average accuracy ~ 98%
- ~20,000X faster than COMPAS

Large training set:  
~13,000 COMPAS populations