

## Transport by magnetic fields in stellar radiative zones

In this talk, we will review some recent progress in understanding the dynamics of magnetic fields in stellar radiative zones. In these regions, a convective dynamo cannot be at play to constantly shear and twist the magnetic field to maintain its energy against Ohmic dissipation. However, there can still be strong interactions between magnetic fields and differential rotation and potentially leading to MHD instabilities. These instabilities are likely to transport angular momentum and chemical abundances in stellar radiative zones. They are also potentially able to produce sustained turbulence and thus dynamo action not relying on the convective motions. Recent applications devoted to red giant stars will be discussed.