



Physics Colloquium

Friday, 8 March 2013, 4:00pm, PSC 3046

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Chemically peculiar stars

Most of the stars are quite different from our Sun having a different size and temperature, and sometimes even a different chemical abundance of the superficial layer (stellar atmosphere) where their observed spectrum is generated. The stars that show overabundance or under-abundance of chemical species comparing to the solar abundance are called the chemically peculiar stars. Those can be the main sequence stars that burn hydrogen in their core, or the evolved stars at the horizontal branch that burn helium in their core. The peculiarity of chemical abundance is related mainly to the stellar atmosphere and its character can be studied through the spectral analysis of line profiles that belong to different chemical species and their ions. In this talk I will give an overview of properties of the chemically peculiar stars and discuss methods that we are using to reveal those properties and to explain their physical nature.