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**Title:** How Stars Freeze

**Abstract:** After exhausting their core hydrogen and helium, low mass stars contract and form incredibly dense white dwarf stars. With fusion no longer providing a heat source, these stars cool until their cores start to freeze. This releases latent heat that delays the cooling, but also results in a complicated separation of the mixture of nuclei present in the star. Recently, the Gaia space telescope has identified a population of white dwarfs - the 'Q branch' - that are seemingly too hot, as if an additional heat source 'turns on' after a billion years. I will present some simulations of white dwarf crystallization and explain how the Q branch, and indeed many other white dwarfs, are kept warm by crystallization in their interiors.