

Seminar

Friday, 4 September 2009

11 am - Room 701

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Nucleosynthesis in Red Giant Stars

For low and intermediate-mass stars (with initial masses between about 0.8 to 8 solar masses) the most important nucleosynthesis occurs when stars evolve off the main sequence to the giant branches. It is during the asymptotic giant branch (AGB) phase of stellar evolution that the richest nucleosynthesis occurs. This is driven by thermal instabilities of the helium-burning shell, the products of which are mixed to the stellar surface by recurrent mixing episodes. Heavy elements can be synthesized during the AGB by the slow neutron capture process and is responsible for about half of all elements heavier than iron. In this talk I will describe the evolution and nucleosynthesis of AGB stars, with a focus on current problems and uncertainties surrounding the production of heavy elements.

I will present new results comparing theoretical predictions to the heavy element composition of planetary nebulae and metal-poor Halo stars. I will finish with a discussion of uncertainties and future work.

All Welcome

Contact Details

For further information phone 364 2404, or visit our website: www.phys.canterbury.ac.nz