ABSTRACTS OF ADDITIONAL ORAL TALKS

We collect here the abstracts of five oral presentations for which the written contribution did not reach the editors in time for publication.

Magnetars and Their Massive Star Progenitors

Bryan M. Gaensler (The University of Sydney)

Magnetars are a small group of young neutron stars powered by extreme magnetic fields, with surface strengths in excess of 10^{15} gauss. Now that magnetars have been established as a signicant fraction of the overall neutron star population, we need to understand why some core-collapse supernovae make "normal" radio pulsars, while other supernovae make exotic magnetars. I will review a series of recent multi-wavelength results on the environments and birth-sites of magnetars, which as an ensemble provide strong evidence that magnetars originate from unusually massive stars. I will discuss the resultant implications for the formation and birthrate of magnetars, for the magnetic fields of high-mass stars, and for the rate of long gamma-ray bursts in high-metallicity galaxies.

Long Gamma-Ray Bursts – Core-Collapse SN Connection

Andrew MacFadyen (New York University)

I will review the GRB-SN connection in the context of the collapse and asymmetric explosion of massive rotating stars.

The Nature of Gamma-Ray Burst Progenitors: Observational Constraints

Kris Stanek (Ohio State University)

I will discuss the observational constraints we have on the GRB progenitors. I will concentrate on the properties of the hosts of nearby GRBs, contrasting them with what we know about hosts of various types of supernovae.

Massive Stars in Dwarf and Irregular Galaxies

Eva K. Grebel (University of Heidelberg)

I will discuss our knowledge of massive stars in resolved dwarf and irregular galaxies and the impact of these stars on the evolution of their host galaxies.

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Massive Stars, Super Star Clusters, and Feedback in Starbursts

Jay Gallagher (University of Wisconsin), Linda J. Smith (ESA/STScI), & Mark S. Westmoquette (University College London)

The majority of stars now in existence likely formed in conditions more similar to those in starbursts than to the situation in the present-day solar neighborhood. Unique features in the spatial and temporal patterns of massive star formation in starbursts thus must be taken into account in understanding how feedback shaped galaxies. This talk considers how the concentration of massive stars into compact star clusters with sizes of ~ 10 pc, which in turn often are found in multi-100-pc-scale starburst clumps, affect the host galaxy. M82 provides a particularly accessible example of the starburst clump evolutionary mode. HST and ground-based observations show that the resulting high power densities can energize large-scale galactic winds and also support long-term photoionization over kpc scales. Working from the case of M82 we consider how changes in patterns of star formation can inuence galaxy evolution through the redistribution of baryons and newly synthesized metals.

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