

DISCUSSION: STELLAR EVOLUTION

Paper: **Cepheids in the Magellanic Clouds**
Author: **John A. R. Caldwell, C. David Laney**

MADORE: *In your opinion, what is the single largest uncertainty remaining for the Cepheid distance scale?*

CALDWELL: As regards the Cloud distances from Cepheids, I think that the uncertainties (other than the Pleiades modulus) are more or less evenly spread over several sources, all at about the .03 - .06 mag level: (1) the median zeropoint from the calibrators; (2) the standard unreddened magnitude of the Cloud Cepheids; (3) the corrections for metallicity, and (4) the effect of possible bending of the instability strip.

Paper: **Wolf-Rayet stars in the Magellanic Clouds**
Author: **Lindsey F. Smith**

WOOD: *Can you determine the C/O ratio in the WC and WO stars?*

SMITH: For WC stars it's hard. In the hydrogenic lines OIV and CIV are blended. For high excitation WO stars, OVI is observed. Kingsburgh & Barlow (1990, IAU Symposium 143) got O/C ~ 0.2 by number for WO4 stars.

TOBIN: *Some Galactic Wolf-Rayet stars have high velocities. Are any such Wolf-Rayet stars known in the Magellanic Clouds?*

SMITH: Absolute velocities are hard to determine because the emission lines are broad and the central wavelength often shifted, probably due to optical depth effects in the atmosphere. The Galactic stars you refer to are at high Z and believed to be runaways. I know of no similar observations in the Clouds.

Paper: **The interstellar reddening and metallicity of NGC 330**
Author: **Michael S. Bessell**

DOPITA: *How can you reconcile the high value of the foreground reddening in the SMC with the absence of a strong 2200Å bump feature in almost all the SMC stars so far observed with IUE?*

Paper: **Winds from hot stars in the Magellanic Clouds**
Author: **R.P. Kudritzki *et al.***

LEQUEUX: *I would like to point out a difficulty with the high galactic reddening you assume in the direction of the SMC. The column density of HI is known in this direction and the high reddening value yields an anomalously high E(B-V)/N_H ratio for the Galaxy. I have no figure in mind but I am sure the problem exists.*

Paper: **Binary X-ray sources in the LMC**
Author: **J.B. Hutchings, A.P. Cowley**

TOBIN: *What are the prospects for a black hole candidate becoming a confirmed case?*

HUTCHINGS: We need to confirm theoretical predictions. Unfortunately there are few predicted observable properties that are generally agreed upon for us to look for. For the moment we are flagging objects above $\sim 5 M_{\odot}$.

Paper: Abundances in Magellanic Cloud planetary nebulae
Author: M.J. Barlow

WALKER: Is the velocity of L305 the same as that for NGC 330?

BARLOW: No, they differ by 30 km/s.

Paper: Planetary nebulae in the Magellanic Clouds
Author: M.A. Dopita

MOULD: *If Type 1 nebulae are the progeny of the more massive stars, why don't we see them above the horizontal part of the $0.7 M_{\odot}$ Track in your HR diagram?*

Paper: RR Lyrae stars in the Magellanic Clouds
Author: Alistair R. Walker

DA COSTA: *Your value of $M_v = +0.45$ for RR Lyraes with $[Fe/H] = -2.0$ is, I think, close to the value predicted for this abundance by the theoretical horizontal branch models of Lee, Demargue and Zinn.*

WALKER: I agree.

MATEO: *Could you please comment on the mean-mag.-metallicity relation you derive from MC RR lyr stars?*

WALKER: This is covered in the printed version of my talk.

Paper: Studies of SNRs in the Magellanic Clouds
Author: A.J. Turtle

EKERS: *Can you use the very different SNR densities in the LMC and our Galaxy to test the hypothesis that SNRs are the source of cosmic ray particles by comparing it with the difference in non-thermal radio emissivities?*

TURTLE: These calculations have not yet been done. They will require assumptions on relative strengths of the magnetic fields and confinement of relativistic electrons.

ALVAREZ: *What is the position angle of the SMC nonthermal radiation after removing the SNR's.?*

TURTLE: I think it is the same as the optical bar.

MEABURN:

1. *How complete is your detection of young ($< 10^4$ year old) remnants in the halo of 30 Dor?*
2. *Several LMC supernova shells with diameters ≥ 50 pc may be the consequence of successive explosions. Can you detect this possibility?*

TURTLE:

1. *For SN in HII regions you must rely on X-ray emission for their detection. Many could then be missed if they are not strong X-ray emitters.*

2. This possibility can't be distinguished by observations of the non-thermal radio continuum emission.

Paper: SN 1987a and its role in the LMC
Author: I.J. Danziger *et al.*

WHITELOCK: *I would like to remind people that according to the various theories, something between 70 - 80% of the radioactive decay energy is being emitted in the X- and γ -ray regions and that there are no recent observations in these spectral regions.*

Paper: Radio pulsars in the Magellanic Clouds
Author: D. McConnell *et al.*

WALBORN: *Are there any detailed correspondences with the positions of known SNR or OB associations? Any evidence for binary nature? What is the positional uncertainty?*

MANCHESTER: *Recent detections of pulsars in globular clusters suggest that $DM \sin^2 i$ for the Galaxy may be somewhat less than the value you took. Hence the pulsar with $DM = 65 \text{ cm}^{-3} \text{ pc}$ may well be in the LMC rather than a foreground object.*

Paper: First Australia Telescope observations of SNR 0540-693
Author: M.J. Kesteven *et al.*

TURTLE: *What can you say about the pulsed component of the radio emission?*

MANCHESTER: *We have detected the central pulsar at radio frequencies, but it is very weak, less than 1 mJy at 640 MHz. So at 5 GHz it would be quite negligible compared to the 65 mJy of the central source.*