DISCUSSION (Weiss)

STĘPIEŃ: I would simply like to stress that there is a tremendous amount of information hidden in the observations of short-period oscillations, and we have to be aware of this. It is a real breakthrough in our knowledge of Ap stars. The frequencies, amplitudes and phases of the oscillations are sensitive to the internal structure of a star, so we can hope to gain some information about this structure. The influence of the magnetic field on these oscillations is proportional to

$$\int_0^R (1/c)(P_{mag}/P_{gas})dr$$

where c is the velocity of sound and the integration is over the stellar radius. Layers near the surface enter with a much larger weight. This means that we may also hope to learn something about the internal structure of the magnetic field.

WEISS: I agree completely with what you say. The complete frequency analysis is very important, and it helps to have the cooperation of at least two observatories separated widely in longitude so that continuous time intervals can be observed.

GERTH: Did you take into account the structure of the window function, which is connected with the temporal distribution of the observations?

WEISS: The spectral window was extremely clean since we were working with a continuous set of data taken at nearly constant time intervals. Of course, it is extremely important for frequency and power spectra discussions to include the spectral window to be sure there are no alias frequencies. In the case of α Circinus and the other stars this was done properly.

GERTH: Could you also describe the significance criterion used in order to decide whether or not a peak in the power spectrum was real?

WEISS: For the photometry, the criterion was the repeatability of the frequency peaks in different data sets, especially in data sets taken with different filters, by different observers, or with different telescopes. Kurtz assumes his line frequency analysis to be complete if the multi-frequency-fit residuals show only white noise.

C. R. Cowley et al (eds.), Upper Main Sequence Stars with Anomalous Abundances, 233.