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## Long-Period Cepheids

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**Long-Period Cepheids**

N. R. Simon (University of Nebraska), S. M. Kanbur (University of Glasgow)

The controversy over the value of  $H_0$  may soon be settled when the refurbished Hubble Telescope looks at Cepheids in galaxies as distant as the Virgo cluster. Unfortunately, the bright, long-period Cepheids which will be most easy to observe at great distance have not been subject to very extensive theoretical study. In the present investigation, we build hydrodynamic pulsation models for

Cepheids with  $P > 13d$  and compare them with observed stars, particularly by the technique of Fourier decomposition. The strengths and weaknesses of the models are assessed and their implications for the Cepheid period- luminosity relation discussed.