

Ugeseddel 11 (week 49)

In the lectures on 8 December Günter continues the discussion of white dwarfs (*Kippenhahn, Weigert & Weiss*, Chapter 37). On 12 December Amalie and Andreas will talk about the evolution of binary stars. An overview of the subject is provided by Podsiadlowski: The evolution of binary stars; I have put a link to the paper on the web page. On 15 December Günter will finish the treatment of compact objects, including neutron stars and perhaps a little on black holes (*Kippenhahn, Weigert & Weiss*, Chapters 38 and 39). The final lecture of the course will be on 19 December; here I plan to give a brief overview of the complications introduced by stellar rotation (*Kippenhahn, Weigert & Weiss*, Chapters 43 – 45).

There are a few remaining issues from the past exercise classes which have been rather full. We use the exercise class on 14 December to deal with these:

- i) Go through the remaining parts of Exercise U10.1 from last week's Ugeseddel.
- ii) If you have not completed the determination using MESA of the minimum stellar mass from Ugeseddel 10, for the two different compositions, I suggest that you do so.
- iii) The analysis in *Lecture Notes on Stellar Structure and Evolution*, Exercise 10.1 was clearly based on fairly crude simplifications, even though the result was reasonable. Try to make a detailed comparison between the results of the exercise and the model behaviour and structure produced by MESA. This could include checking the validity (or lack of validity) of the simple approximation to the equation of state made in the exercise.

Evaluation of the course: As mentioned previously, the course will be evaluated based on reports on topics related to the course. A list of possible topics, with relevant references, is available on the website of the course (<http://astro.phys.au.dk/~jcd/stel-struct>). Please send me an e-mail (jcd@phys.au.dk) with your choice of topic. Note that for this evaluation I do not allow several reports on the same topic. The topics will be allocated on a first-come first-served basis, and I shall maintain a list of already reserved topics on the web page.