

## Ugeseddel 12 (week 50)

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In the lectures on 15 December Günter will finish the treatment of compact objects, including neutron stars. (*Kippenhahn, Weigert & Weiss*, Chapters 37 and 38). 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).

We finish the exercise classes on 21 December with a bang:

- i) Use MESA to investigate the transition from stars ending their lives as white dwarfs to stars that continue all the way to core collapse.
- ii) See how close you can get to the final core collapse and explosion (I do not think that MESA models actually explode, but I may be wrong). Consider the properties of these very evolved stars, including their 'onion-layer' composition structure.
- iii) It would be interesting to see what happens for extremely massive stars (beyond  $100M_{\odot}$ , at normal composition).

**Correction to *Kippenhahn, Weigert & Weiss*:**

- **p. 103, Eq. (11.34):** In the second equation ' $g$ ' should be replaced by ' $G$ '.

**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](mailto: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.

## Merry Christmas and happy New Year!!