

Waves and seismology of the Sun

In addition to any information gleaned from the lecture on 21 October 2002 on this topic, you have been given handouts of extracts/notes

Linear adiabatic stellar pulsation by D.O. Gough

MHD waves in solar system plasmas by A.N. Wright.

You should read both these handouts: they cover the basic examinable material (and in the case of the Gough article go well beyond it), although to gain full marks on the examination question it may be necessary to have read more broadly around the subject.

Regarding further reading, I recommend the following to those of you who are interested.

On the basic physics and mathematics of solar/stellar pulsations:

- my own notes on *Astrophysical Fluid Dynamics*, available (in PostScript) at <http://www.sp.ph.ic.ac.uk/~mjt/afd/>
- *Lecture Notes on Stellar Oscillations* by J. Christensen-Dalsgaard, available at <http://www.obs.aau.dk/~jcd/oscilnotes/>

On waves:

- the book *Waves in Fluids* by J. Lighthill, a comprehensive introduction to its subject and could be useful for understanding some aspects of the topic;

On helioseismic applications and results:

- the articles in *Science* vol. **272**, pp. 1233-1388 (1996), which give a good overview;
- the preprint of *Helioseismology* by J. Christensen-Dalsgaard, the most up-to-date review of helioseismology, and available at <http://xxx.soton.ac.uk/abs/astro-ph/0207403>

I emphasize that the above are suggestions for reading to support the handouts and to broaden your knowledge and understanding; you may find them helpful to read selectively, but you are certainly not expected to read any of them from cover to cover.

In addition, you will receive a Problem sheet on this topic on 11 November and solutions on 21 November.