

EXAM IN IN-MOD-BER (WINTER SCHOOL IN COMPUTATIONAL MATHEMATICS)

ABOUT THE EXAM

- The exam is to be handed in by April 30 2003 by 12:00 AM by sending a PDF-file (or a *compressed* PostScript file) to
`Knut-Andreas.Lie@sintef.no`
- Each candidate must hand in their own paper, where *all* text and illustrations are made by the candidate. Copying text or other material from other candidates or other sources *is not allowed*.
- Discussions with other candidates during the assignment is allowed (and encouraged).
- If you have not registered for the exam, you must do so immediately by contacting Ms. Kristin Bråthen (email: kristinb@ifi.uio.no, phone: +47 22 85 29 56) at Department of Informatics, University of Oslo.

THE ASSIGNMENT

You are working in the company Serious Numerics Inc. Your boss has decided that your research group needs to be updated on recent advances on modern methods for nonlinear evolution PDEs. Moreover, he has noticed that there are a lot of people that have started to work on something called “level-set methods”. He has therefore decided (unusually wise by his standards) to send you to Geilo to learn more about these topics. Afterwards you are expected to report back to the group about what you learned about one of the topics. One of your colleagues, Mr. Winterbottom, is rather envious and has openly suggested that your trip to Geilo is a waste of both time and money. Before you left, your boss remarked somewhat vaguely that he expected you to report in a manner that would mollify Mr. Winterbottom.

While at Geilo, you received an email from your boss stating that he was about to leave for Iraq to be a human shield. His last instructions were that you should finish a report of between 8 and 10 A4 pages by April 30. Mr. Winterbottom has been appointed as new leader for the group while your boss is in Iraq, and he will therefore review your report.