

Gunn Diode Oscillator Minutes

David Headland

2004-01-28 10:00

Attendance

- Fourth year students:
 - AJ Nelms
 - R Wan.
 - JM Higginbotham.
 - MP Gaskill.
 - DP Headland.
 - RE Irwin.

- UMIST Staff
 - R Sloan (at times).

Approvals

- A grammatical error in the previous minutes was corrected.

- The rest of the minutes from the previous meeting were approved.

Waveguide manufacture

- RE Irwin has been in contact with e2v about the waveguide manufacture.
- e2v have questions for the design team.
- They need to clarify reasons for the size change.
- Some aluminium guides are ready made, they may be suitable.
- Ray from the D floor workshop has said he can make the guides.
- We will ask for both, then may get at least one.
- MP Gaskill should confirm the waveguide design with e2v by telephone.

Presentation

- Arrangements should be made with T York to book the computer and projector as soon as possible.
- Collaboration with other groups was suggested for the practise.
- e2v Technologies have been invited to the presentation.
- The dress code is shirt and tie.
- Cameras should be present in case of relevant photo opportunities.
- 3–6 slides were suggested per person, totalling five minutes each.
- The detail level is important — enough to explain, but not to bore.
- Presentation task split
- The task split was discussed.
- The following sections have been decided upon (in approximate order):
 - RE Irwin:
 - * Team introduction: As for the previous presentation. All aural introductions will be done by Ruth this time.

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- R Wan:
 - * Uses of Gunn diodes.
 - * Overview of Gunn diodes: The Gunn effect, demonstration with the model, band structure, reasons for oscillation.
 - * Waveguide choice.
 - DP Headland:
 - * Power combining and injection locking: Phase locking, etc.
 - * Second harmonic operation: Guide wavelength, base on Ruth's report section.
 - JM Higginbotham:
 - * Radial line transformer: Summarise report, filtering harmonics.
 - * Simulation: Reasoning, limitations, software, graphs (possibly video) or simulations, future possibilities.
 - MP Gaskill:
 - * Building: Aims and objectives, research, construction, problems, future work.
 - AJ Nelms:
 - * Testing: What and why, results graph and comparison to expected data, future testing.
 - RE Irwin:
 - * Summary: Needs the rest to be complete before it can be constructed. Emphasise past, present and future work.
 - All:
 - * Questions must be answered after the formal presentation.
- Collation of individual sections will take place on Friday from 10:00 in A19.
 - It was suggested that work should take place in Word to be pasted into PowerPoint to work around a bug in PowerPoint.

Elected positions

- The elected positions were discussed.

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- Current positions should stay as they are until after the presentation.
 - At this point, possible changes will be discussed again.

Task list

- Following T York's email, a task list must be created.
- This refers to the self appraisal documented in the handbook.
- This will be worked on after the practise on Wednesday afternoon.

Proposed actions

DP Headland	Mail T York to arrange a session to practise the presentation.
MP Gaskill	Talk to e2v Technologies by telephone regarding waveguide design.
AJ Nelms	Talk to T York regarding the possibility of having to miss the presentation.
MP Gaskill	Investigate slide templates.
MP Gaskill	Bring in a laser pointer.
All	Consider material for the self-appraisal.
MP Gaskill	Check the PowerPoint version on the presentation computer.
JM Higginbotham	Talk to R Sloan about problems with the radial line transformer.
RE Irwin	Inform R Sloan that we will be in A19 on Friday morning.
MP Gaskill	Inform WS Truscott that we will be in A19 on Friday morning.
All	Prepare slides ready for collation on Friday.

Next meeting

Time Friday 30 January 2004, 10:00.

Place A19 laboratory.

Meeting adjourned, 11:19.