

# Gunn Diode Oscillator Minutes

David Headland

2004-01-30 10:00

## Attendance

- Fourth year students:
  - AJ Nelms
  - R Wan.
  - JM Higginbotham.
  - MP Gaskill.
  - DP Headland.
  - RE Irwin.
- UMIST Staff
  - WS Truscott (12:00–12:30).

## Approvals

- The minutes from the previous meeting were approved.

## Waveguide manufacture

- The UMIST workshops are passing the waveguide manufacture between people.
- It is unlikely that anything will come of this.

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- MP Gaskill faxed N Priestley the paper regarding waveguide design.
  - N Priestley will read it and get back in touch if there are any problems.
  - Otherwise, manufacture will start.

## Report Comments

- WS Truscott provided the following comments on the interim report:
- Always be quantitative where possible. For example:
  - Low cost  $\rightarrow$  10p or £25.
  - Low voltage  $\rightarrow$  2 V or 2  $\mu$ V.
- Some equations have been used without full understanding.
- Problems were introduced whilst translating to L<sup>A</sup>T<sub>E</sub>X.
- It was suggested that a copy of the presentation should be sent to R Sloan and WS Truscott so that they can check factual claims such as formulae.
- Low resolution images were used in places where taken from books. Try to re-draw where possible.
- Be more careful with crediting pictures taken from elsewhere — always credit directly below the picture in question.
- A critical review of the current literature was expected but not found.
- A chronology of developments by others was expected.
- For the Barth paper, a list of things that were specified and those left for us to find out should have been presented.
- Suggested presentation format:
  - Introduction
  - GaAs vs InP
  - What has been done on power combining
  - Second harmonic power combining.

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- Concentrate on information for power combining rather than explaining Gunn diode operation.
  - If possible explain how much power is present in the fundamental frequency and second harmonic (nobody knows for sure).
  - Make sure not to confuse  $I - V$  curves any velocity-electric field curves.
  - Emphasise differences with the Barth paper.
  - Emphasise particular challenges with the project.

## Presentation decisions

- R Wan's section will have to be re-written based on WS Truscott's comments.
- RE Irwin will be doing aims and objectives after the introduction.

## Social event

- Lunch will be available for those wishing to attend before Monday's meeting.
- Time: 12:00.
- Place: The Number 1 Oriental Buffet, Whitworth Street.
- Meet: By the main entrance of UMIST on Sackville Street.

## Proposed actions

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| All | Tweak slides if required: Deadline: 23:59:59 2004-01-31. |
| All | Prepare oral presentation for Monday's meeting.          |

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## Next meeting

Time       Monday 2 February 2004, 14:00.

Place       D floor coffee room.

Meeting adjourned, 13:05.