

Errata to '*Ultrafast Lasers and Optics For Experimentalists*'

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Whilst this book is relatively short and brief, a tight publishing deadline and poor proof reading on my part mean that there are a few errors remaining. Most are typographical, with only one or two minor factual inaccuracies. Thanks to all those who have pointed them out.

In several places the English could also be tightened but this will be saved for the second edition (I plan to release this once the book gets featured by the Richard and Judy book club).

1 Front Matter

- Page xiii - under 'Bandwidth', replace 'FHWM' with 'FWHM'.
- Page xvi - I wish to acknowledge Benno Simmons for helping to check all the figures for consistency.

2 Chapter 2

- Page 2-11 - In text following equation 2.4, swap the ω after 'beam radius' for an x .

3 Chapter 3

- Page 3-2 - Equation 3.2. Not an error, but replacing $c(\omega)$ with v_p (for *phase velocity*) is in keeping with notation elsewhere.
- Page 3-9 - In text following equation 3.12, add 'on' after 'group delay depends' (penultimate line in paragraph).

- Page 3-10 - Equation 3.18. Remove unnecessary comma at the end of the equation.

4 Chapter 5

- Page 5-7 - Text at the top of page (before section 5.4) gives the impression that intracavity dispersion is solely responsible for Ti:Sa amplifiers not producing short pulses, when in practice gain narrowing caused by the high amplification is also a significant factor.

5 Chapter 6

- Page 6-5 - Text in section 'Intensity autocorrelation' gives the impression that the pulse is split in half, but it is not clear that this means that two replicas of the input pulse are made, each with half of the input pulse energy (the pulse is not split in half in time, for example).
- Page 6-9 - In footnote 6, replace '800nm' with '266nm'.
- Page 6-11 - Paragraph at top of page implies that a Gaussian function would be fit to the transmission behind a scanned knife edge - in reality an integrated Gaussian (complementary error function) would be fit. See example software on my website with an explanatory note.

6 Chapter 7

- Page 7-15 - Top of page, second line - some wire grid polarisers have the direction of the wires marked on them, which is orthogonal to the transmission axis.
- Page 7-22 - Text after equation 7.1, replace ω_0 with x_0 .
- Page 7-22 - Point 3 in the itemised list is nonsense and only serves as a way to remember the focussing behaviour (at best). The reason that a larger Gaussian beam focusses to a smaller spot is more complex and due to the properties of Gaussian beams. A handwavy explanation is that a smaller beam waist in the focus must lead to higher divergence due to the uncertainty principle, and this means that at a given distance away from the focus, the beam is larger for a smaller beam waist. The best explanation is still probably 'because this is what the maths of Gaussian beams says', however. Please get in touch if you have a nicer intuitive explanation!

- Page 7-23 - Footnote 15, add '(like Americans)' to the end of the footnote.