
Other errors

- Titles need to be descriptive
 - Remove unrelated information
 - Author lists

 - Affiliations
 - Princeton University
 - Permanent address: Princeton University
 - Current address: Princeton University

 - Acknowledgements
 - Funding agencies; scholarship providers
-

Common “abstract” errors:

- not enough info given -

- “.... Therefore, we conducted temperature dependent light versus current measurements and carefully studied the dependence of the threshold with temperature. We will discuss how the threshold increases exponentially with temperature. ...”
 - “...Temperature dependent measurements of the light versus current characteristics showed that the threshold increased exponentially ($J_{th} = J_0 \cdot \exp(T/T_0)$) with a characteristic temperature $T_0 = 150K$. ..”
-

Common “abstract” errors:

- vagueness -

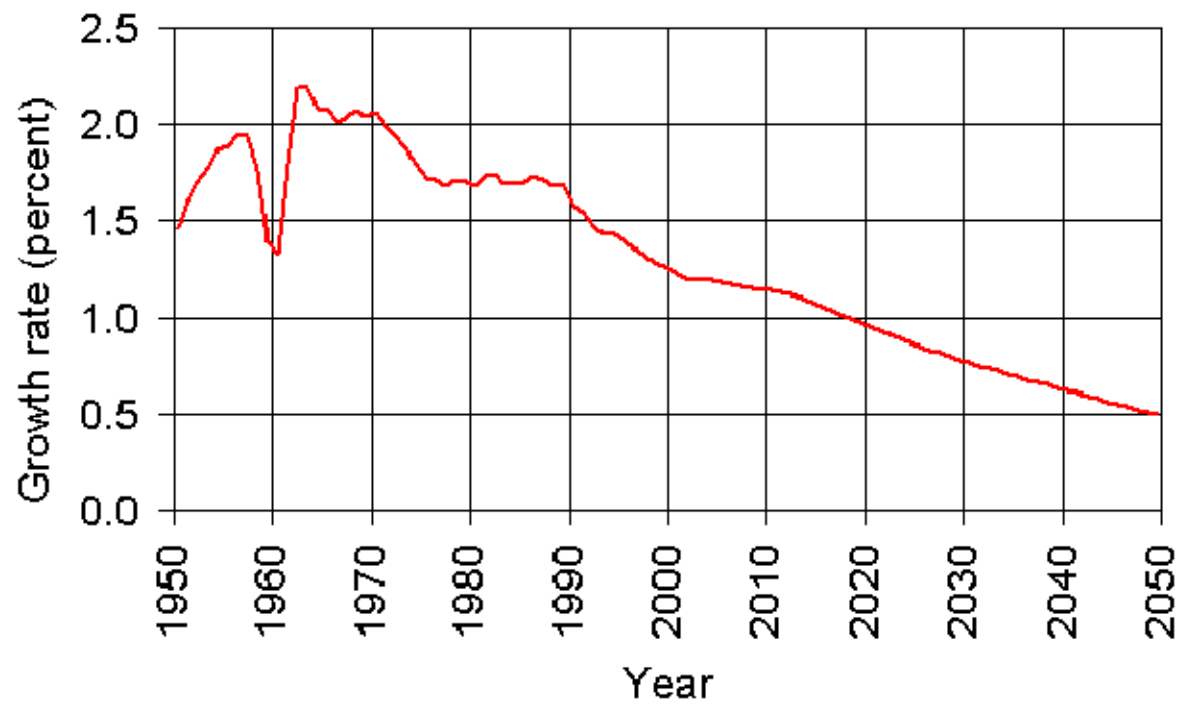
- “...QC lasers are interesting light sources due to their fascinating new features that make them useful for many applications. ...”
 - “...QC lasers are interesting light sources due to their wavelength tailorability across the entire mid-infrared that make them useful devices for trace-gas sensing. ..”
-

Common “abstract” errors:

- duplication -

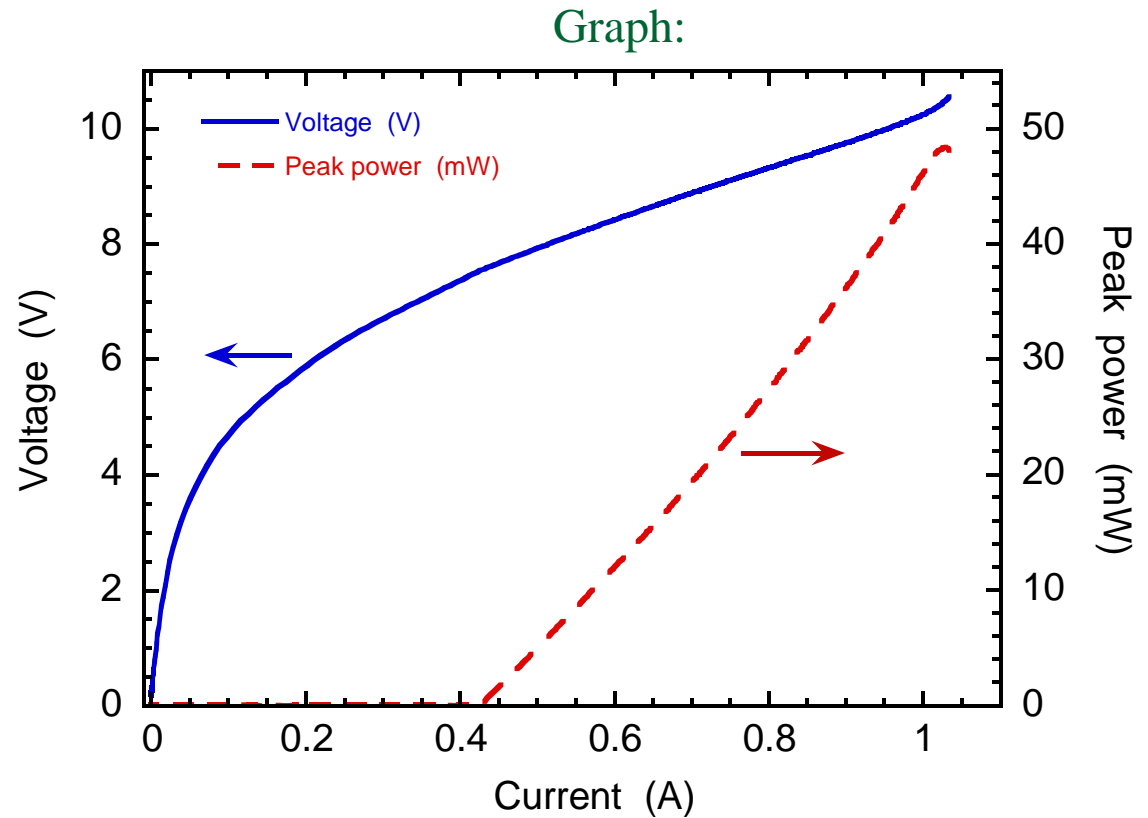
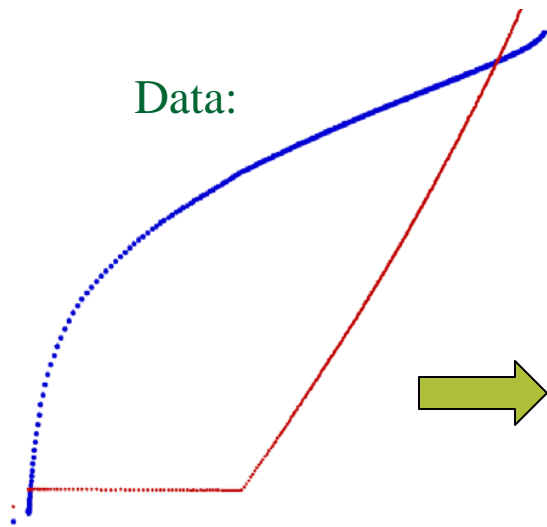
- “QC laser gain is temperature dependent because of the decrease of the scattering time with temperature. The phonon scattering time is reduced by a factor of two between 80K and 300K, causing a strong decrease in QC laser gain at high temperatures.”
 - “The phonon scattering time is reduced by a factor of 2 between 80K and 300K resulting in a strong decrease in QC laser gain at high temperatures.”
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World Population Growth Rates: 1950-2050



Source: U.S. Census Bureau, International Data Base, July 2007 version.

From Data → To Graphs: Key Rules

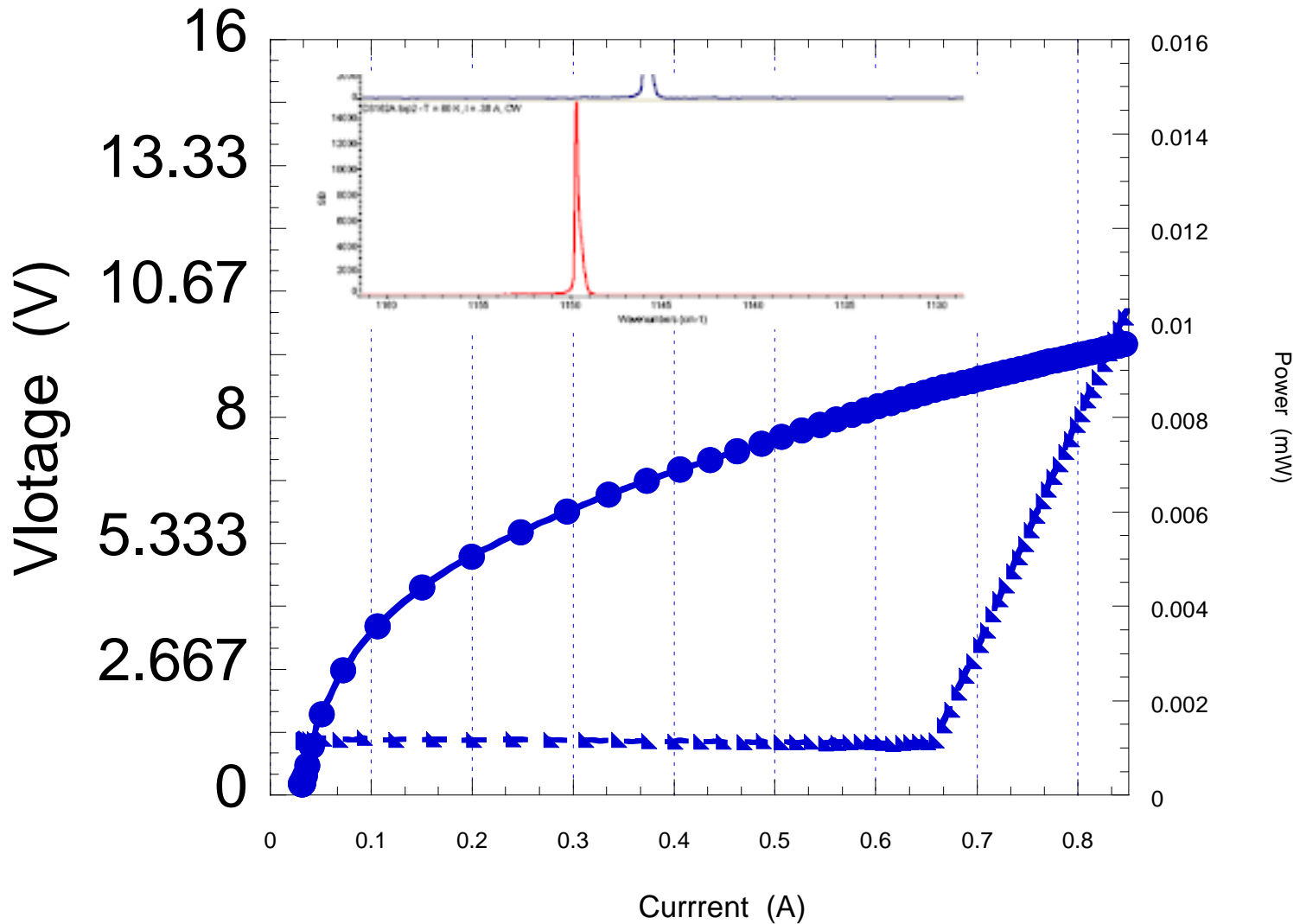


- Three Key Rules:

Three key rules...

- Don't make them up!
 - Speak up if you notice!
 - Don't “fudge” them! (Selectively delete, move,)
 - Clean them up! (Remove artifacts that are meaningless to others.)
 - Keep track of changes; keep raw data separate.
-

What's wrong with this ?



General Rules for Good Graphs:

- In Text:
 - Need to be scientifically sound
 - Need to be unambiguous
 - Need to fit $\frac{1}{2}$ column space (as most publications)
 - Have font size 10 – 12 pts
 - Use Times Roman or Arial
 - Have line thicknesses that withstand copying

 - In PowerPoint:
 - Need to be scientifically sound
 - Need to be unambiguous
 - Important graphs: 1 per slide
 - Comparison graphs or lesser importance: 2 per slide
 - Have Font size ~ 16 – 18 pts
 - Avoid bright green
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- Use common sense & some artistic spirit !