GEOPUG: Week 2
Equations and the start of figures

GEOPUGGER

1 More Equation stuff

Remember inline equations use a dollar sign to tell Latex its equation time. Like this $x = y$

And to place the equation (for example, a spherical harmonics function) centered on a line of its own, you do this:

$$V(\phi, \lambda) = \sum_{n=0}^{\infty} \sum_{m=0}^{n} cY(\phi, \lambda) \sin x \tag{1}$$

Since we labeled the equation we can refer to it in any subsequent text. For example...

<div align="center">Hey, remember Equation 1? What a doozy!</div>

As super scientists, we refer to Equation 1 very often, but what if the order of our equations changes? The number following the word equation is automatically updated if you ask Latex (nicely!). So you can insert three other equations before eq:SHE and the above sentence will read 'Equation 4' without you having to even think about it. Got it? Try it by uncommenting the equation above it and see what happens.

A note about trig functions Latex will automatically italicize sin, cos, tan, etc unless you enter it as a command. Notice the difference between $sinx$ and $\sin x$. If and when you use the latter, be sure to put a space between before x. Otherwise, Latex will read it as a command that doesn't exist. Try it and see.

Aligning

The align command is useful for vertically aligning equations according to your needs.

$$X = 2y + 5y + 7y + 11y$$
$$X = 25y$$
$$= 25y$$

as opposed to this mess

$$X = 25y$$
$$= 25y$$

As super scientists, we refer to Equation 1 very often. Now if I changed the order of equation 1 and two, eq:SHE will always be the correct number automatically. If using Bibtex and you cite a paper within your text, Latex will give you an error if that reference isnt in the bibliography. If you remove the paragraph with the citation, Bibtex will remove the reference for you.

Referencing If you are using BibTex and you cite a paper within the text, Latex will give you an error if the reference is not in the bibliography. Furthermore, if you remove the sentence or paragraph with the citation, BibTex will remove the reference from the bibliography for you.

2 Fun with Figures!

Figures and tables have an extra tag that you can not forget. Everything pertaining to your figure must be within both beginfigure and endfigure. Since the graphicx package is already called upon (in the preambles) we are ready to go!

Graphicx allows for the addition of pdf, eps, pgn or jpg into your document.

Figure 1: One of my personal favorites.

See how there were lots of instructions before the image was even added to the document. As long as it's all within the figure tags, it's good! Experiment with the border and width of the figure.

<center>More on figures next time!</center>