

Weekly assignment for week 1 (25/01/16) AST3220

Prepare for class (to be discussed in plenary)

Go out at night and look up at the sky. What conclusions can you draw on the size, age and evolution of the universe from what you see? First pretend you are an ancient greek philosopher with very sparse knowledge of physics. What will your conclusions be then? Next, use your knowledge of modern physics without much knowledge of modern cosmology, what conclusions can you draw with these tools?

When you tell your friends that you are studying cosmology, a common question that appears is: - What happened in the Big Bang? - a quite difficult question, and - What happened *before* the Big Bang? - even a more difficult one (if it makes any sense). What is your personal opinion on all that? Enjoy yourself for a few minutes thinking about it.

An idea was already suggested in the early 70's by Edward P. Tryon. You can take a look at his simple and clear explanation (given the difficulty of the problem) here:

<http://www.nature.com/nature/journal/v246/n5433/pdf/246396a0.pdf>

Bonus problems from universeinproblems.com

All problems in the section *Astronomy "before the Common Era"*