

Exercises VII

To be discussed in werkcollege, 2nd april, 12.15-14

1. Why does oxygen abundance provide a good timescale for chemical enrichment and thus the formation timescale of the bulge? How can you disentangle the formation history of entire galaxies from single stars?
2. What are positives & negatives about using the Local Group as a testing ground for theories of galaxy formation and evolution? What do you miss and what do you gain and why.
3. Describe the different types of absorption line system found in the spectra of quasars. What can you learn from them?
4. Ask Scott a question on Friday 3rd april. I haven't told you anything about the details of how you can determine properties from integrated spectra of distant galaxies.

FOR THE EXAM: my advice is to prepare by going through the book, the lecture notes and especially the papers you got to read each week and make summaries **in your own words** of the important points. Make sure you understand which formulae are used to calculate basic properties of galaxies and the Universe. Hopefully the exercises you have done help you in this respect. You may take your notes & papers and the Longair book into the exam. But realize if you start copying directly from the book or papers – this is not going to get you very high marks. But correct references to papers in text of your own words will.

Paper presentation on 2nd April, 12¹⁵-14

Week 8

Abundance Analyses

Zoccali et al. (2006) A&A, 457L, 1

Oxygen abundances in the Galactic bulge: evidence for fast chemical enrichment

Prochaska et al. (2003) ApJL, 595, 9

The Age-Metallicity Relation of the Universe in Neutral Gas: The First 100 Damped Ly α Systems

Venn et al. (2004) ApJ, 128, 1177

Stellar Chemical Signatures and Hierarchical Galaxy Formation