

Chemical Evolution of the Universe

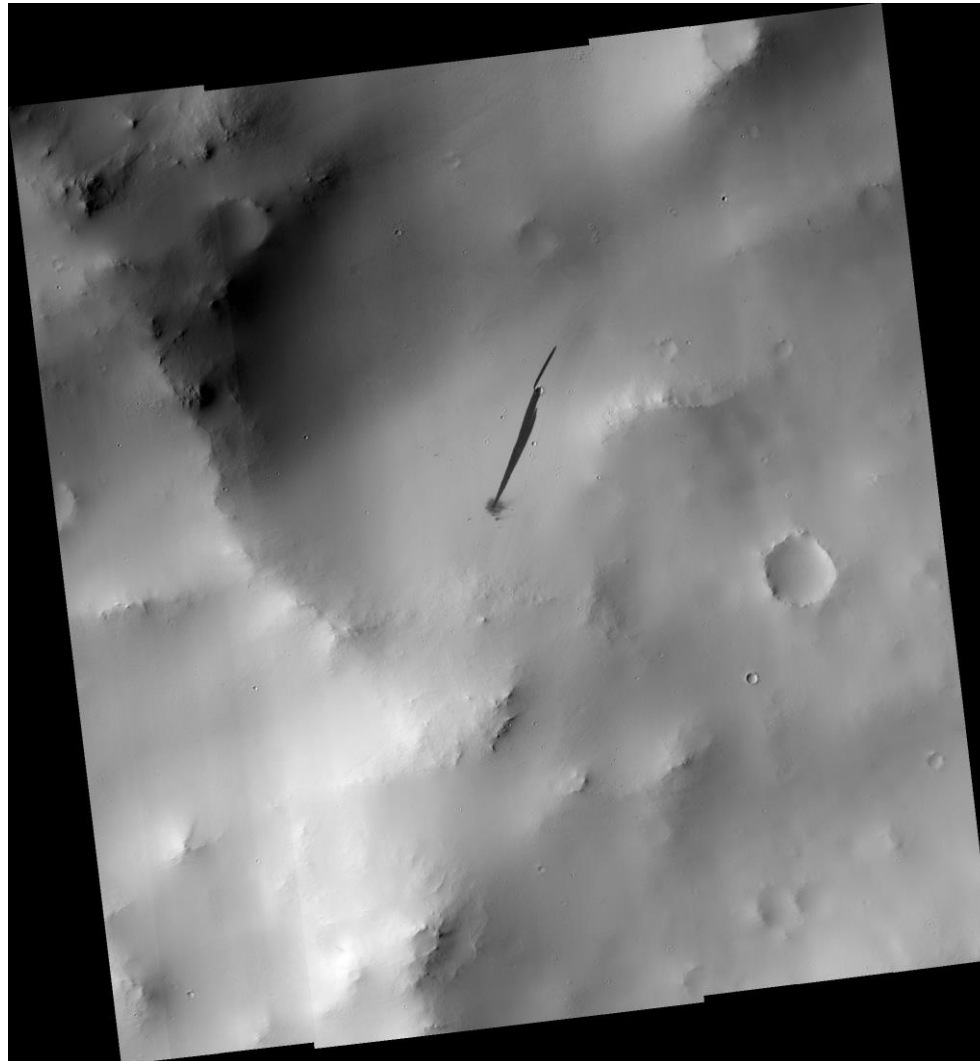
Part 11



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Astronomical news of the week

From HiRISE on Mars Reconnaissance Orbiter (MRO):



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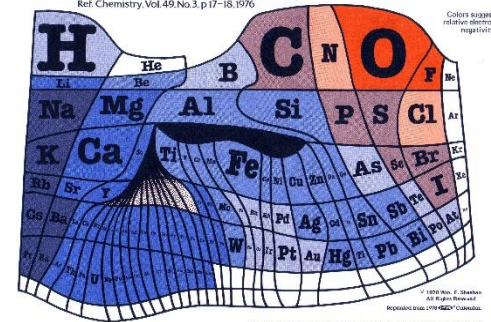
Contents

1. Cosmological background
2. Primordial nucleosynthesis
3. Stellar structure, nucleosynthesis and evolution
4. Neutron capture processes
5. Cosmic ray spallation
- 6. Galactic chemical evolution**
7. Chemical evolution in the intergalactic medium



The Elements According to Relative Abundance

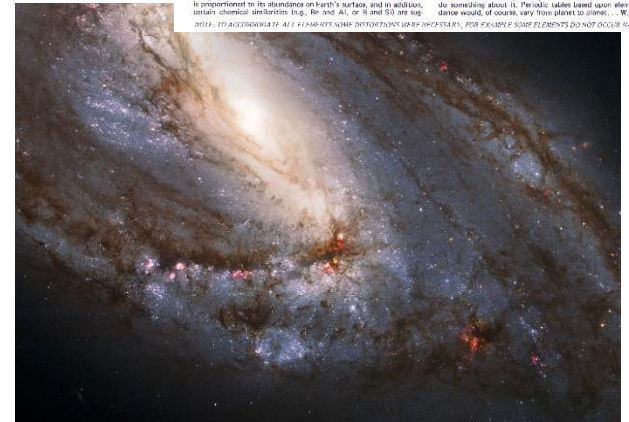
A Periodic Chart by Prof. Wm. F. Sheehan, University of Santa Clara, CA 95053
Ref. Chemistry, Vol. 49, No. 3, p. 17-18, 1976



Colors suggest
relative electro-
negativity

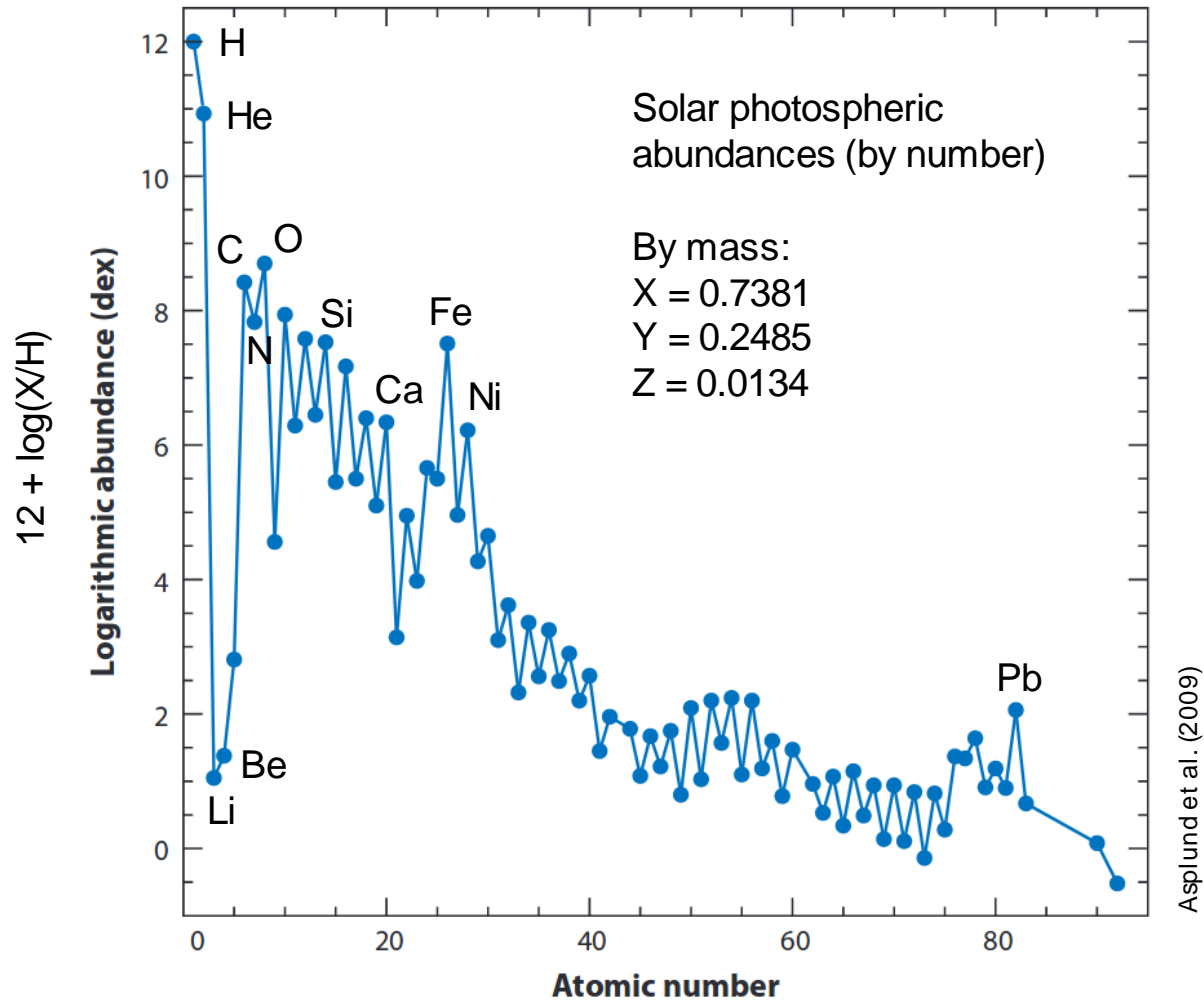
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Roughly, the size of an element's own niche ("almost square square") is proportional to its abundance on Earth's surface, and in addition, certain chemical similarities (e.g., Be and Al, or R and SO) are suggested by the positioning of neighbors. The chart concludes that in real life a chemist will probably meet O, Si, Al, ... and that he better do something about it. The table takes upon elemental abundance would, of course, vary from planet to planet. ... W.F.S.

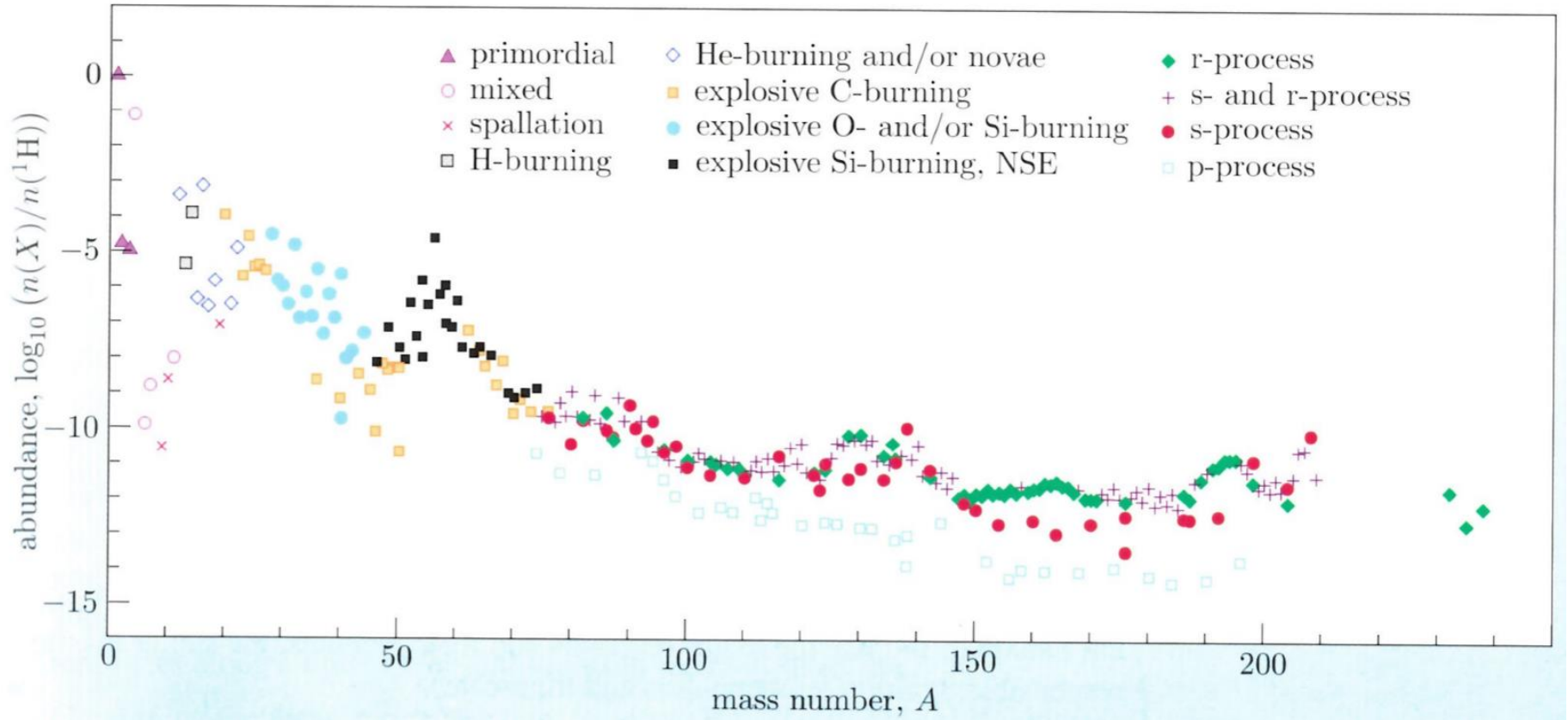


Goal of this course

- ◆ Our goal is to understand this plot:

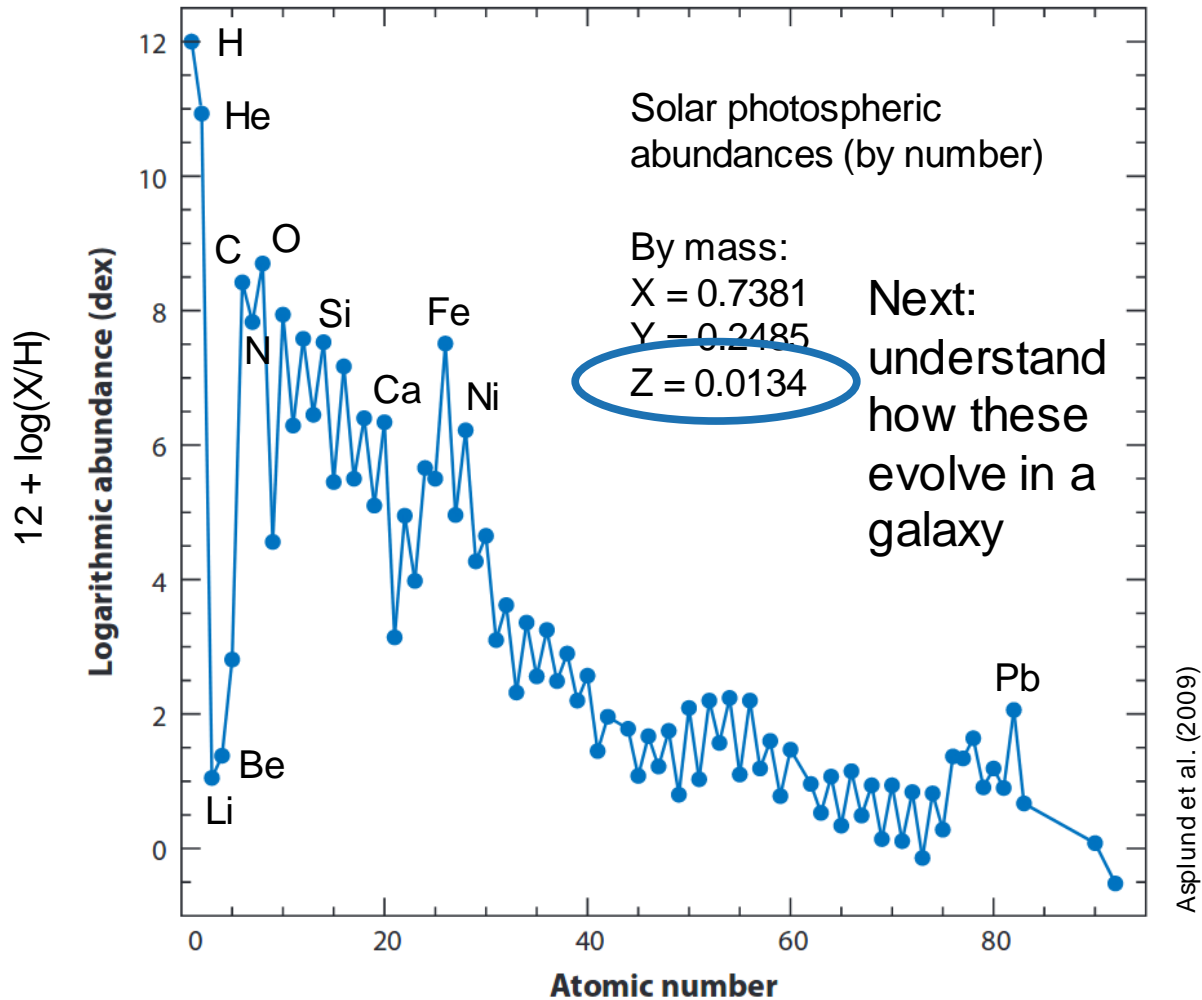


Summary of origin of nuclei

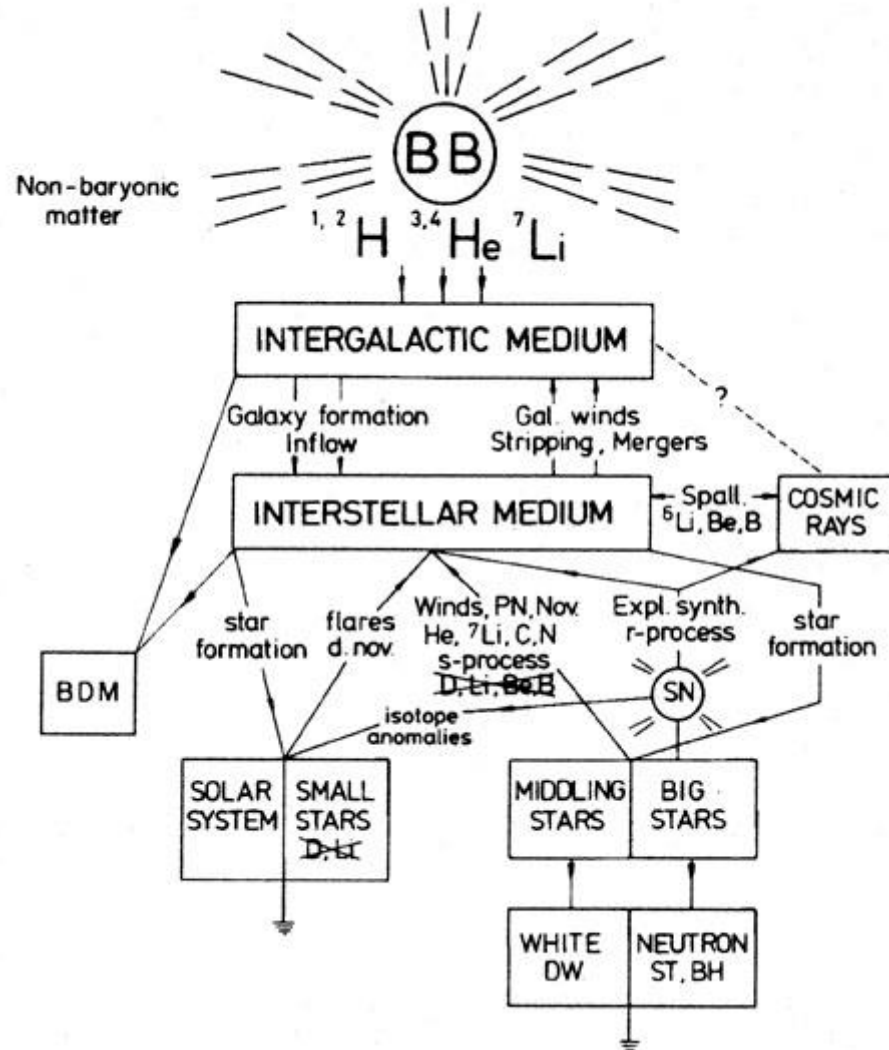


Goal of this course

- ◆ Our goal is to understand this plot:



6. Galactic chemical evolution



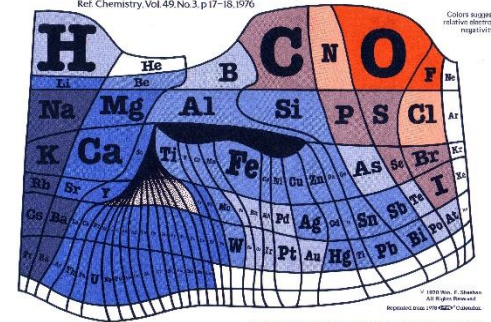
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 - 6.1 Basic ingredients
 - 6.2 Equations
 - 6.3 Simple model

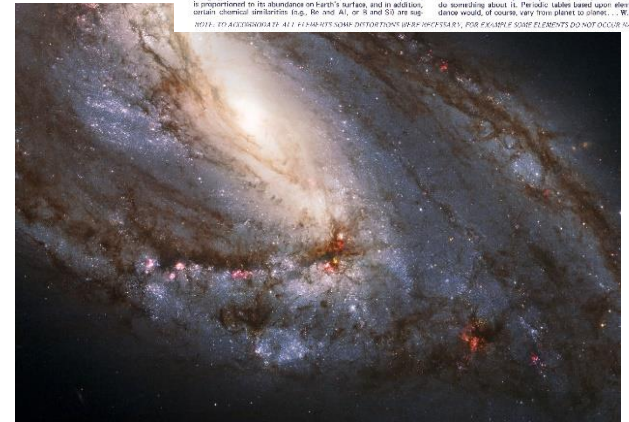


The Elements According to Relative Abundance

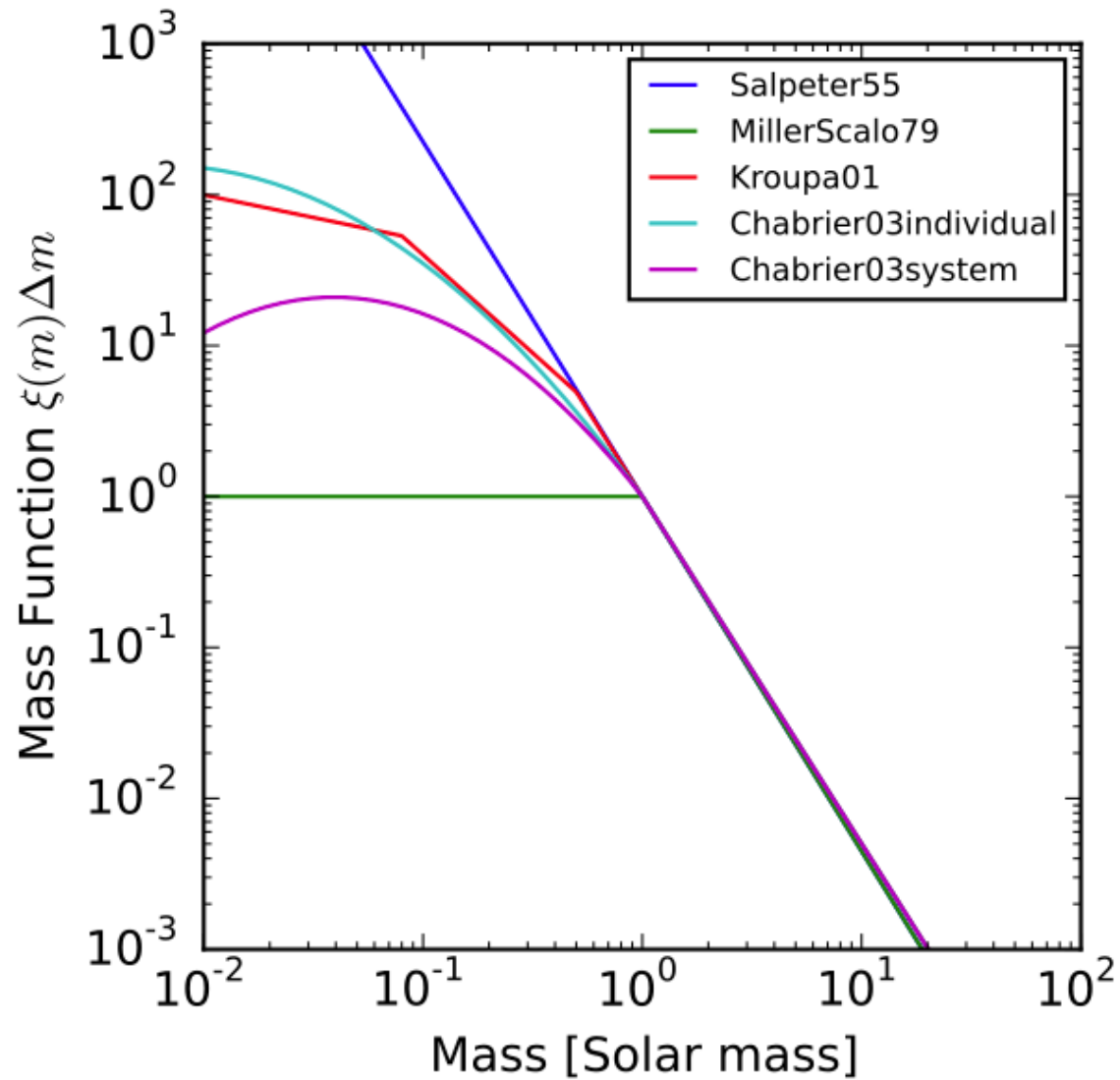
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6.1 Basic ingredients: IMF



6.1 Basic ingredients: SFR

