Poster No. 68

YUKAWA INSTITUTE FOR THEORETICAL PHYSICS

Gamma-ray bursts of the first generation of stars

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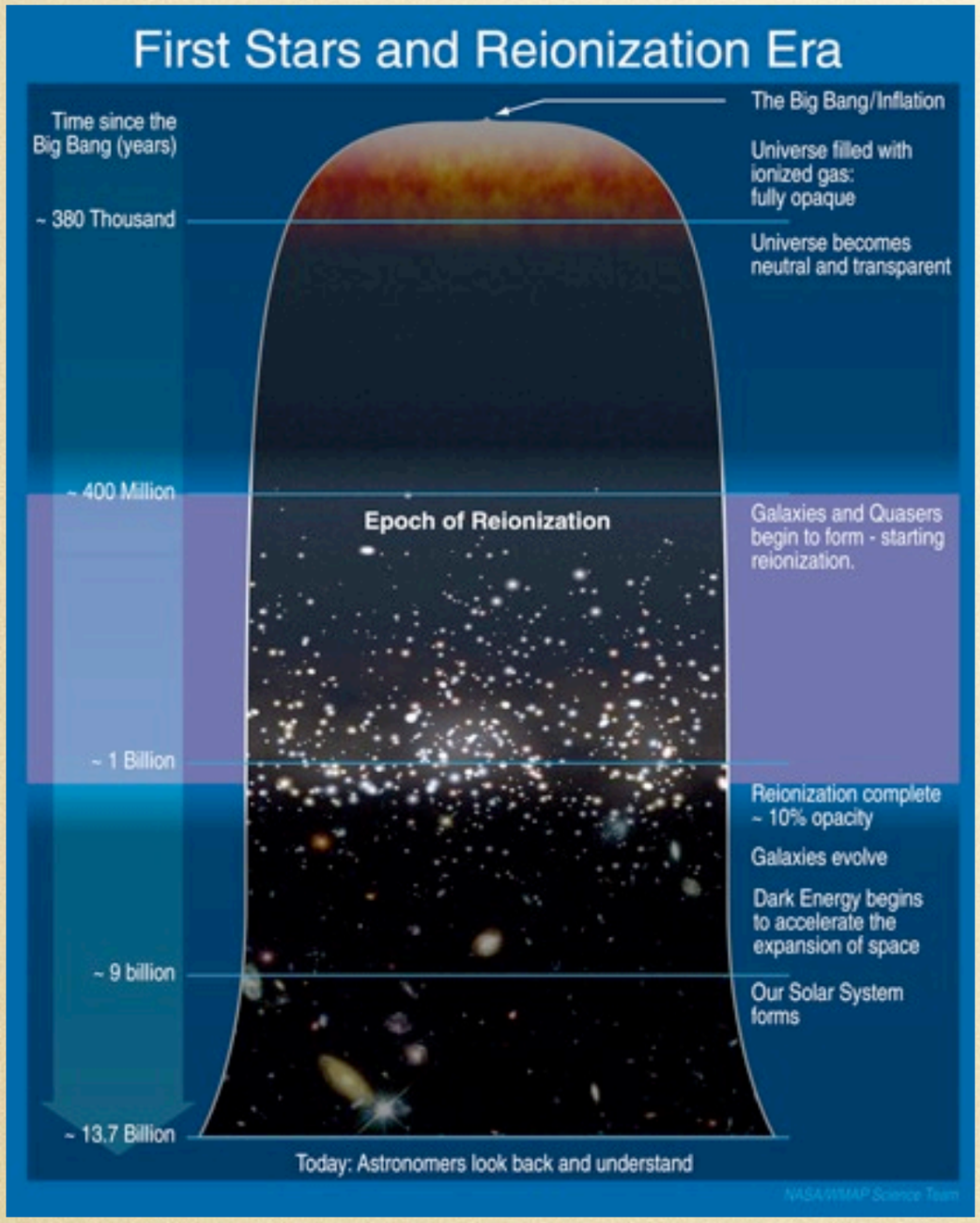
Population III Stars



http://imagine.gsfc.nasa.gov/docs/sats_n_data/satellites/jwst_darkages.html

- First stars in the Universe
- Metal free
- End of ``Dark Age''
- Relation to reionization
- No observations so far
- ***GRBs from Pop III stars can be bright beacons in the early universe!***

GRB properties

We investigate the productivity of GRBs for the first stars. Please come to my poster No. 68 for details...

Model	Mass [$M_\odot$]	Radius [10^{11}cm]	Mechanism	break time [s]	E_{GRB} [10^{52} erg]	E_{cocoon} [10^{52} erg]	T_{90} [s]	E_{iso} [10^{54} erg]
Pop III	915	90	MHD	690	45	57	1500	120
			Neutrino	could not penetrate the envelope...				
GRB	16	0.4	MHD	4.7	1.0	0.23	49	2.6
			Neutrino	2.8	1.0	0.42	10	2.6