


DISCUSSION III

Modeling

Key Questions

- Do the current predictions agree ? 
- Do the predictions agree with observations ?
- Is there room for improved calculations ?

THEORETICAL MODEL COMPARISON*

	COORAY+	FERNANDEZ+	SALVATERRA+	KASHLINSKY+
Simulation	NO	YES, DM only	YES, DM+baryons	
Stellar pops	PopIII/II Gauss. Trans	PopIII or PopII	PopIII /II Trans	
IMF	Salp.(II),Larson(III)	Salp.(II),Larson(III)	Salpeter, 1-100 M _⊙	
Metallicity	0 or 1/50 Z _⊙	0, 1/50 Z _⊙	From simulation	
Stellar spectrum	Stars, ff, fb, 2γ, Lyα	Stars, ff, fb, 2γ, Lyα	Starburst99, Lyα	
SF efficiency	0.07	0.04	0.1	
F_esc	0.5	0.1, 1.0	0.2	
Feedback	<10 ⁶⁻⁹ M _⊙ suppressed	<10 ⁹ M _⊙ suppr.ble	<10 ⁸ M _⊙ suppressed	
Luminosity fct	≈Matches; faint end ?	⊙	Matches z=5-9	
Reionization	τ _{es}	τ _{es}	GP+τ _{es}	
RESULTS				
Intensity @3.6μm	0.09 nW/m ² sr ⁻¹	?	1.8 nW/m ² sr ⁻¹	
Fluctuations	10x smaller than obs.	1.6, 2.4, 3.6 μm: OK	3.6-4.5 μm: OK	
Spectral color	Too red	Too red ?	Too red	

Alternative approach

*fiducial models