

September 8, 2009

Ms. Ingrid Gnerlich  
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Princeton, NJ 08540-5237

Dear Ingrid,

Many thanks for your e-mail regarding the two positive reports on my book, *How and When Did the First Stars and Galaxies?*, that was prepared for the Princeton Frontiers in Physics series.

I am grateful to the readers for their thorough review and praise of my book. Below are my replies to their comments and suggestions:

- *Audience and level:* The book was crafted so as to appeal to the broadest non-expert audience. Chapters 1, 2 and 8 provide an overview on cosmology that would be of interest to the educated general public and starting undergraduate students. The more technical chapters 3-7 target undergraduate science majors and graduate students, who are considering a research career in cosmology. The various layers of technical complexity are intertwined in a harmonic, self-contained fashion, so that all concepts used in the advanced sections are clearly explained in simple terms elsewhere. This construction would make the book useful to researchers as they advance through all stages of their career. The multi-layer design is also ideal for maximizing the general appeal and sales of the book.
- *Addition of exercises:* Following your instructions concerning the Princeton Frontiers in Physics series, I avoided the inclusion of exercises.
- *Highlighting the importance of cooling in §3.5:* Done. I have added an opening paragraph to this section that explains the significance of cooling.

- *More details and figures in the observational chapter 6:* Done. The modified version of §6 includes the additional quantitative details requested by one of the readers. Since the book had already reached the limit of 30 figures, I have only added one important new figure (6.3) to §6, showing the mass assembly of stars in the Universe. The frontier of observations is advancing rapidly. My main concern is that expanding §6 to include even more details would make the book appear out of date within a few years. The current version includes only the essential principles that are not likely to change in the future and that will serve the readers well in interpreting new data as it comes along.
- *Sub-headings:* Following the recommendations of one of the readers, I have changed the following titles:
  - 1.2 "The Scientific Story of Genesis" → "Observing the Story of Genesis"
  - 2.5 "Mathematics of Cosmic Expansion" → "Cosmic Archaeology"
  - 2.6 "Milestones in the Roadmap of Cosmic Evolution" → "Milestones in Cosmic Evolution".
- *Further reading:* Done. Recommendations for further reading of review papers are included in the current version.
- *Text changes and typos:* Done. Ambiguities and typos were corrected as suggested.

Once again, I thank the readers for their constructive suggestions, and hope that the improved version of the book will be processed for publication.

With best wishes,

Avi Loeb  
 Professor of Astronomy  
 Director, *Institute for  
 Theory & Computation*  
 Harvard University