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Autore	Stiavelli Massimo
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 3.2.4 Termination of the First Stars Phase  
 3.3 Containing Gas in the Halos of Population III Stars; 3.3.1 Ionization Heating and Gas Temperature; 3.3.2 The Escape of Gas Heated by Ionization; 3.3.3 The Escape of Gas Following a Supernova Explosion; 3.3.4 Population II.5; 3.4 The First Star Clusters; 3.4.1 Clusters of Population III Stars and of Metal-Poor Stars; 3.4.2 The Origin of Globular Clusters; 3.5 The First Galaxies; 3.6 The First Active Galactic Nuclei; 3.6.1 Population III Black Holes; 3.6.2 Black-Hole Mergers; 3.6.3 The Highest-Redshift QSOs; 3.6.4 Direct Collapse to Black Holes  
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 Observational Techniques and their Results  
 5 Studying the Epoch of Reionization of Hydrogen

## Sommario/riassunto

This up-to-date and concise account of a critical period of the early universe directly links the latest theories and experiments. Targeted at cosmological problems rather than specific methods, it begins with an introduction reviewing the early universe and looks at why reionization is important. The process of reionization analyzes simple analytical considerations and compares existing observations, while a further chapter describes some of the issues regarding the transition from Population III to Population II stars, as well as the constraints that can be derived from WMAP. Further chapter