



Going Back to the Beginning

While most people are “going forward,” many physicists calculate backward to try to understand how the universe has evolved. A lack of eyewitnesses means that the best way to achieve that understanding is essentially to run the equations of general relativity and quantum mechanics in reverse. Mathematical models and numerical methods applied to these equations have allowed researchers to reconstruct what happened billions of years ago. The first few instants of the universe, however, will remain a mystery, at least until someone creates a unified theory that incorporates the most important aspects of two of the foundations of modern physics: general relativity and quantum mechanics.

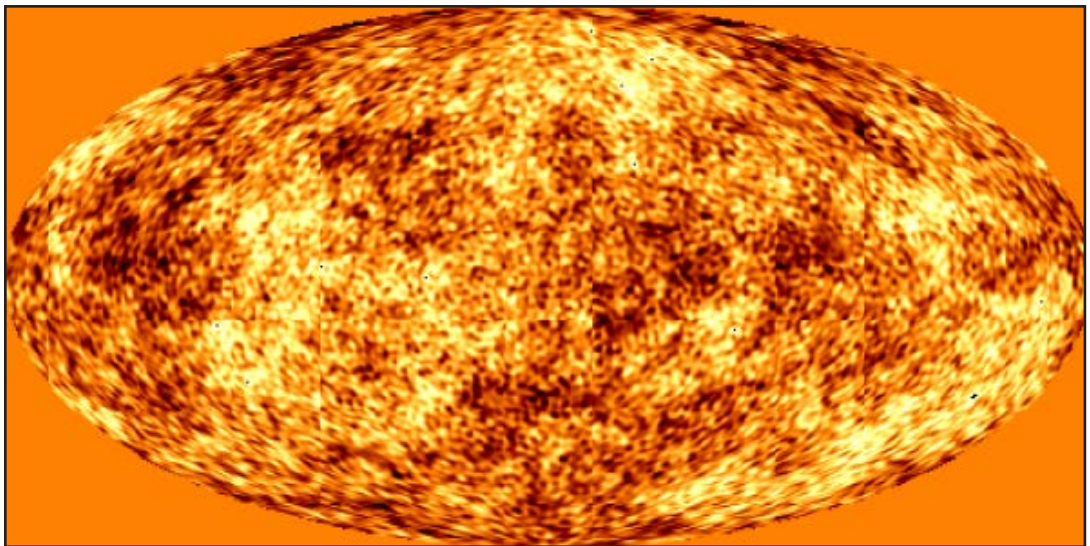


Image: Simulation of the cosmic microwave background, © ESA.

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