

Abstract Submitted  
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**WMAP: An Alternative Explanation for the Dipole** PIERRE-MARIE ROBITAILLE, The Ohio State University — With the measurement of a dipole signal by WMAP, many believe that the CMB must be of cosmological origin. However, since the dipole is being observed in a difference experiment, the possibility remains that the signal detected ( $\sim 3.5$  mK) is simply reflecting motion through a weak microwave field, without the presence of the strong monopole signal reported by COBE and others. A weak microwave field, much weaker than the monopole observed on Earth, would still give rise to a dipole inferred to be caused by the motion of the Local Group. Therefore, the possibility that the CMB monopole actually corresponds to an oceanic signal has not been eliminated since, in this case, a dipole signal would still be detected by COBE. As dictated by relativity, an observer such as COBE would be unable to distinguish between the situations where the universe is bathed in signal from that wherein the signal is actually being produced by the oceans. Should the monopole signal eventually be reassigned, it will be important to search for the oscillator responsible. It is advanced that the weak hydrogen bond between water molecules in the oceans may be a suitable candidate in generating the signal first detected by Penzias and Wilson.

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