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Composition Studies of Ultra-High Energy Cosmic Rays using X_{max} by the High-Resolution Fly's Eye Observatory[1] JOHN BELZ, University of Utah, HIGH RESOLUTION FLY'S EYE COLLABORATION — Both the mean value of airshower maximum X_{max} and the width of the X_{max} distribution are known to be sensitive to the chemical composition of cosmic rays initiating a set of extensive airshowers. Thus, studies of X_{max} are an important part of efforts to understand the nature and origin of Ultra-High Energy Cosmic Rays, the most energetic elementary particles known in the universe. With the Northern Hemisphere's largest exposure to date to cosmic rays above 10^{18} eV, the two fluorescence detectors of the High-Resolution Fly's Eye (HiRes) Observatory are uniquely positioned to study this phenomenon. Here, we report the results of recent studies of the depth of airshower maximum X_{max} in cosmic-ray induced extensive airshowers observed in stereo by HiRes.

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