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Reconstruction of an Intense Auroral Z-Pinch from Instabilities Recorded in Antiquity A.L. PERATT, Los Alamos National Laboratory, M.A. VAN DER SLUIJS, Mythopedia Surrey England, J. MCGOVERN, Institute For Epigraphic Recordings, P. BUSTAMANTE, UC en Concervación del Patrimonio — The GPS locations and survey field-of view data representing some three million rock carvings at petroglyph sites world-wide has been assembled. In addition to previous sites [1], logging has been completed at two major sites in Mongolia; some three-dozen sites in the Flinders Range, South Australia; and in central Chile. The data allows a visual reconstruction of a sub-gigaampere auroral Z-pinch column whose plasma flow was bent inward towards the south polar axis, subsequently flowing around the Earth. Analysis is by means of two and three dimensional satellite and aerial orthophotography with side looking radar sets allowing near ground level to vertical inspection of all-terrain views from each site. It is found that petroglyphs, shown to be depictions of synchrotron light from MHD instabilities, possess polar south preferred orientations and right-ascension-declination information.

[1] A. L. Peratt, "Characteristics for the occurrence of a high-current Z-pinch aurora as recorded in Antiquity," IEEE Trans. Plasma Sci. V.31, 2003.

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