

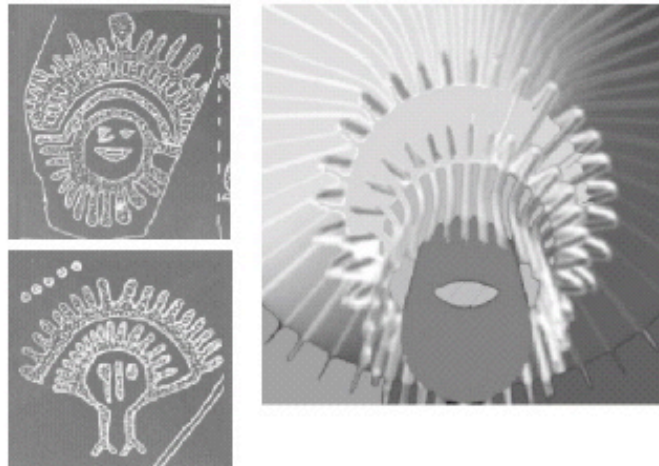
AN INTENSE Z-PINCH AURORA HORN MAPPED BY SURVEYS OF RECORDINGS FROM ANTIQUITY

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The GPS locations and survey field-of view data of some four million rock carvings at petroglyph sites world-wide is allowing the 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. This data is analyzed 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,¹ possess southerly preferred orientations and right-ascension-declination information. The computer model of the reconstructed Z-pinch, via high-speed, high-fidelity three-dimensional PIC simulations, add new petroglyph comparisons as shown by oblique views of the incoming Z-pinch. The reconstruction figure below (right) shows the incoming 56 current sheath² with two pinches (egg-shaped plasmoids) approximately 300,000 km from Earth. Closer in, the 56 currents have merged to 28. On the left are two 'bonnet' petroglyphs from the plethora of such at the Columbia River Gorge, found at the same locations as the 'Stonehenge' variety petroglyphs shown elsewhere.¹



1. A. L. Peratt, *Trans. Plasma Sci.* V.31, N.6, 2003.
2. A. Qöyawayma and A. Peratt, "An intense auroral z-pinch recorded in antiquity from southwestern artifacts", *IEEE Conf. Record and Abstracts, 2006 ICOPS*.