

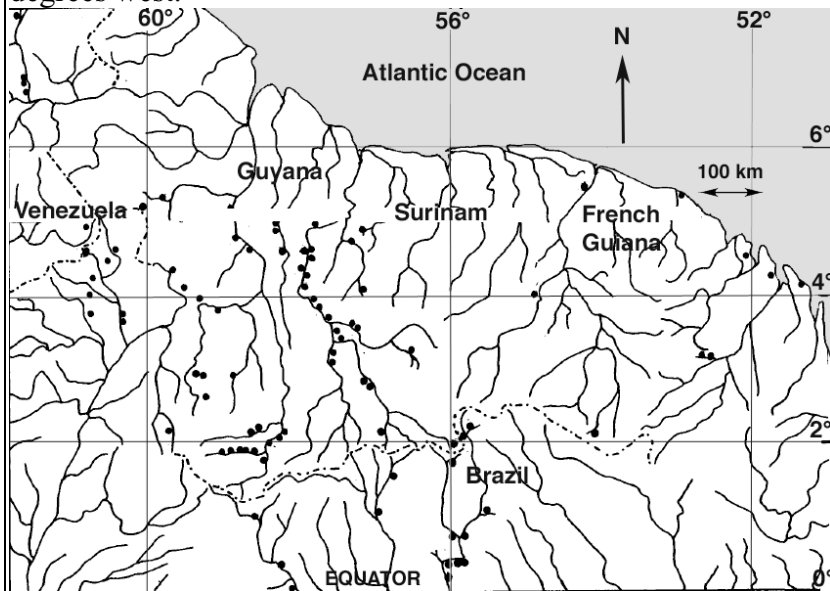
Orientation of Z-Pinch Instabilities from an Intense Aurora as Recorded in Antiquity: South America¹

D. Scott² and A. L. Peratt

*Los Alamos National Laboratory
Los Alamos, New Mexico 87545 USA*

**Conference Record
31st IEEE
International Conference
On Plasma Science**

In the first presentation³ we reported an analysis of a GPS database of petroglyphs recorded in the western US and British Columbia. These results indicated that a plasma flowing into the Earth's south magnetic pole produced an intense aurora seen worldwide. In this paper we report the findings of logged petroglyphs in Venezuela, Guyana, Surinam, French Guiana and northern Brazil as well as some preliminary results from 93 countries. With decreasing longitude towards the Greenwich Meridian, petroglyphs appear to take on an increasingly easterly orientation. This swing from south to east can be tracked through the eastern US and the Caribbean Islands to the petroglyph sites shown below (dots), between 0 and 8 degrees north and 51 to 62 degrees west.⁴



The morphological types of petroglyphs oriented eastwards appear to belong to instabilities much further out in the inflowing plasma. This suggests that the plasma, at least intense enough to be seen at dawn and/or dusk, curved in from the east to flow inwards along the Earth's southern magnetic pole. This geometry is further supported by 'eclipsed' pictographs in Australia.

This work was supported by the Mainwaring Foundation in association with the Univ. of Pennsylvania Museum of Archaeology and Anthropology.

² University of Massachusetts, Amherst.

³ A. L. Peratt 'Orientation of Z-Pinch instabilities from an intense aurora as recorded in antiquity: Western USA. Conf. Proc. IEEE Int. Conf. On Plasma Science, Baltimore, 2004.

⁴ C.N. Dubelaar, The Petroglyphs in the Guianas and Adjacent Areas of Brazil and Venezuela: An Inventory. Monumenta Archaeologica 12, Los Angeles, 1986.