The Skylab barium plasma injection experiments. I - Convection observations

Author(s): Wescott, E. M.; Stenbaek-Nielsen, H. C.; Davis, T. N.; Peek, H. M.

Abstract: Two barium-plasma injection experiments were carried out during magnetically active periods in conjunction with the Skylab 3 mission. The high-explosive shaped charges were launched near dawn on November 27 and December 4, ...

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An equipotential model for auroral arcs

Author(s): Swift, D. W.; Stenbaek-Nielsen, H. C.; Hallinan, T. J.

Abstract: Shaped charge barium release data and high-speed auroral image data show the likely existence of anomalously large (about 1 V m referred to the 100-km level) electric fields at distances the order of one earth radius above ...

NASA Center: NASA (non Center Specific)
Publication Year: 1976
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Accession Number: 76A442700; Document ID: 19760059734

Two barium plasma injections into the northern magnetospheric cleft


Abstract: Two rocket experiments, performed in January 1975, investigated convection of plasma formed by solar photoionization of barium injected into the northern magnetospheric cleft at 13 km s upward and parallel to the local ...

NASA Center: NASA (non Center Specific)
Publication Year: 1975
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Accession Number: 75A38468; Document ID: 19750054396

A high-altitude barium radial injection experiment

Author(s): Wescott, E. M.; Stenbaek-Nielsen, H. C.; Hallinan, T. J.; Deehr, C. S.; Romick, G. J.; Olson, J. V.; Roederer, J. G.; Sydora, R.

Abstract: A rocket launched from Poker Flat, Alaska, carried a new type of high-explosive barium shaped charge to 571 km, where detonation injected a thin disk of barium vapor with high velocity nearly perpendicular to the magnetic ...

NASA Center: NASA (non Center Specific)
Publication Year: 1980
Added to NTRS: 2004-11-03
Accession Number: 81A17427; Document ID: 19810033023

The Skylab barium plasma injection experiments. II - Evidence for a double layer
Author(s): Wescott, E. M.; Stenbaek-Nielsen, H. C.; Hallinan, T. J.; Davis, T. N.; Peek, H. M.
Abstract: Television observations of a barium-plasma flux tube extending from near 4500 km to near 10,000 km during a magnetic substorm and dawn-sector auroral display indicated several interesting anomalous events. Beyond 5500 km, ... 

Rocket-borne measurements of the dayside cleft plasma - The Tordo experiments

Abstract: Results are presented from low-energy plasma analyzers (12 eV to 12 keV) carried on two rockets launched into the dayside cleft during January 1975. It is concluded that (1) atmospheric interaction becomes important for less ... 

The L = 6.6 Oosik barium plasma injection experiment and magnetic storm of March 7, 1972

Author(s): Wescott, E. M.; Stenbaek-Nielsen, H. C.; Davis, T. N.; Murcray, W. B.; Peek, H. M.; Bottoms, P. J.
Abstract: A high-explosive shaped charge vaporizing a hollow conical liner of Ba metal and producing a fast field-aligned jet of plasma was detonated at high altitude, during a quiescent phase of a magnetic storm initiated by an ssc ... 

The Echo 4 electron beam experiment - Television observation of artificial auroral streaks indicating strong beam interactions in the high-latitude magnetosphere

Author(s): Hallinan, T. J.; Stenbaek-Nielsen, H. C.; Winckler, J. R.
Abstract: No Abstract Available

L = 1.24 conjugate magnetic field line tracing experiments with barium shaped charges

Author(s): Wescott, E. M.; Stenbaek-Nielsen, H. C.; Davis, T. N.; Peek, H. M.; Bottoms, P. J.; Rieger, E. P.
Abstract: Description of three experiments involving the injection of barium ions into magnetic flux tubes with the aid of high-explosive shaped charges with hollow conical liners of barium metal. In these experiments (called Alco, ... 

The Tordo 1 polar cusp barium plasma injection experiment

Author(s): Wescott, E. M.; Stenbaek-Nielsen, H. C.; Davis, T. N.; Jeffries, R. A.; Roach, W. H.
Abstract: In January 1975, two barium plasma injection experiments were carried out with rockets launched into the upper atmosphere where field lines from the dayside cusp region intersect the ionosphere. The Tordo 1 experiment took ...