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Mauk BH, Williams DJ, McEntire RW, Roelof EC, Krimigis SM, Armstrong TP, Wilken B, Roederer JG, Fritz TA, and Lanzerotti LJ
 Hot plasma parameters of Jupiter's middle magnetosphere as derived from Galileo EPD measurements.

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 Observations of energetic particle flux variations during Europa encounters by the Galileo Energetic Particles Detector (EPD).

McNutt RL, Bokulic RS, Dickey RB, Woo R, Miller JK, Randolph JE, Hellings R, Moore WV, Habbal S, Fineschi S, and Howard R
 The NEAR solar conjunction experiment.

Najmi AH, and Lui ATY
 Time-frequency decomposition of signals.

Nylund SR, Christon SP, Gloeckler G, Galvin AB, Eastman TE, Williams DJ, McEntire RW, Roelof EC, Lui ATY, and Kokubun S
 Observation of high charge state ion variations in the magneto- sphere during the January 6–11, 1997, magnetic cloud event: Geotail spacecraft observations.

Roelof EC
  Interpreting magnetospheric images of charged particle populations as 2D to 2D mappings.

Roelof EC, Decker RB, Gold RE, Simnett GM, Lanzerotti LJ, Maclennan CG, and Armstrong TP
  Reappearance of recurrent low energy particle events in the northern heliosphere: Ulysses, Voyager 1/2, and IMP8.

Williams DJ, Mauk BH, McEntire RW, Roelof EC, Krimigis SM, Armstrong TP, Wilken B, Roederer JG, Fritz TA, and Lanzerotti LJ
  Energetic particle observations by Galileo.

Wing S, and Newell PT
  A statistical pressure profile of the magnetotail as inferred from the ionospheric observations.

Wing S, and Sibeck DG
  Changes in geosynchronous magnetic field as a function of IMF B_z, IMF B_y, and solar wind dynamic pressure.

Ziebell LF, Yoon PH, and Lui ATY
  Two-dimensional Hall-MHD simulation of current sheet dynamics during substorm growth phase.

COLLOQUIA

The following topics were recently presented at the weekly APL Colloquium:

2 May
  Demographic Transitions and Economic Miracles, D Bloom, Harvard University

9 May
  Electronic Democracy: Implications of the New Technologies, JD Abramson, Brandeis University

16 May
  Missions to Comets and Asteroids: Past, Present, and Future, RW Farquhar, APL

U.S. PATENTS (1996)

APL staff members received the following U.S. patents during 1996:

JC Spall and JA Cristion
  Method for Model-Free Control of General Discrete-Time Systems, No. 5,513,098 (30 Apr): A method of developing a controller for general (nonlinear) discrete-time systems, where the equations governing the system are unknown and where a controller is estimated without building or assuming a model for the system.

IN Bankman and WA Christens-Barry
  Method and System for Automated Detection of Microcalcification Clusters in Mammograms, No. 5,574,799 (12 Nov): A method for automated detection of objects in images with one specific use being to detect malignant microcalcification clusters in mammograms.

FOREIGN PATENTS (1996)

APL staff members received the following foreign patents during 1996:

RS Potember and TO Poehler
  Multistate Optical Switching and Memory Using an Amphoteric Organic Charge Transfer Material, No. 2075375 (Japan) (25 Jul): A multistate organic optical storage medium is disclosed, wherein an optical beam can switch any "data storage spot" on the optical storage medium into three or more memory states. The optical storage medium may consist of a mixture of bistate switching modules, or of large delocalized amphoteric molecules.