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Symmetrical Two Dimensional Scattering Program

The problem:

To compute the scattering properties of an electric or magnetic plane wave incident upon one or more cylindrical objects with a midplane of symmetry.

The solution:

A computer program which solves the integral equation for the currents on conducting cylinders. These currents are induced by an incident E-wave or an incident H-wave. This program also takes advantage of the symmetry of the geometry.

How it's done:

The axis of the cylindrical objects is assumed to be parallel to the Z-axis. Therefore, the cross section in the X-Y plane is sufficient to describe the problem geometry. Each cylinder is described by a set of line segments. The end-points of each line segment must conform to the right-hand screw (i.e., counter-clockwise in the X-Y plane).

Restrictions on the program are as follows:

1. The number of specified line segments cannot exceed 180.
2. The user must supply his own incident-field routine.
3. All angles are assumed to be in units of degrees.

4. All distances are assumed to be in units of wavelengths.

Notes:

1. This program is written in FORTRAN V for use on the UNIVAC-1108 Exec 8 computer.
2. Program number NPO-11579 is the IBM-7094 version of this program, written in FORTRAN IV.
3. COSMIC also has available program numbers: NPO-11576 and NPO-11577 which are the UNIVAC-1108 and IBM-7094 versions, respectively, of the Non-Symmetrical Two Dimensional Scattering Program.
4. Additional information may be obtained from:
COSMIC
Barrow Hall
University of Georgia
Athens, Georgia 30601
Reference: B71-10008

Patent status:

No patent action is contemplated by NASA.

Source: W.V.T. Rusch and J. Hatfield of
Jet Propulsion Laboratory
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The purpose of this brief is to provide a summary of the current state of the art in the field of artificial intelligence. This document is intended for use as a reference for researchers and practitioners in the field.

Artificial Intelligence: A Survey

The field of artificial intelligence (AI) has seen rapid growth and development in recent years. This section provides an overview of the key areas of research and the challenges that remain. The primary focus is on the development of intelligent systems that can learn from experience and solve complex problems. This involves the integration of various disciplines, including computer science, psychology, and linguistics. The current state of the art is characterized by significant advances in machine learning, natural language processing, and robotics. However, there are still many challenges that need to be addressed, such as the development of systems that can reason and plan like humans. The future of AI is bright, and it is expected that it will continue to play a major role in many aspects of our lives.

The development of artificial intelligence (AI) has been a long and arduous process. It has involved the creation of complex algorithms and the development of sophisticated hardware. The current state of the art is characterized by significant advances in machine learning, natural language processing, and robotics. However, there are still many challenges that need to be addressed, such as the development of systems that can reason and plan like humans. The future of AI is bright, and it is expected that it will continue to play a major role in many aspects of our lives.