

PHYSICS MEDIAGRAPHY

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A. EINSTEIN: HOW I SEE THE WORLD

1 videocassette. VHS. 60 min. 1991.

Chronicles how the world's most famous Nobel Prize winner, scientist Albert Einstein, became its most eloquent advocate for peace. News films show the public figure, home movies reveal the private man, and much of the film is told in Einstein's own words, which have been excerpted from his diaries, personal letters, and writings.

530.92 A111e

APOLLO 13: THE UNTOLD STORY

1 videocassette. VHS. 50 min. 1995.

The real saga behind the hit movie. Three astronauts inside a dead spacecraft with no oxygen, electricity, or fuel to return home.

629.454 A644t

BLACK HOLES AND WARPED SPACETIME

by the Astronomical Society of the Pacific.

1 videocassette. VHS. 45 min. 1992.

Lecture by astronomer and popular author William Kaufman, with slides that illustrate its points, including photographs of likely black holes sites.

523.8875 B627h

A BRIEF HISTORY OF TIME

1 videocassette. VHS. 84 min. 1993.

Explores the mysteries we've all wondered about against the backdrop of the life story of Stephen Hawking, the physicist who has conducted research into the farthest reaches of time and the universe while living in a wheelchair.

523.1 B853h

CELLULAR AUTOMATA

1 videocassette. VHS. 30 min. 1990.

Rudy Rucker, co-author of CA Lab Software (marketed by Autodesk, Inc.), presents some background information in cellular automata theory, describes some recent applications in the fields of image processing and music generation, and "talks through" a continuous flow of cellular automata generated in real-time by CA Lab.

006.6 C393au

THE CLARINET, THE WASHTUB, AND THE MUSICAL NAILS: HOW MUSICAL INSTRUMENTS WORK

1 videocassette. VHS. 59 min. 1989.

Dr. Greenler demonstrates basic principles of physics as they apply to simple musical instruments. Some demonstrations use volunteers from the audience. Shows how ordinary items can be used as musical instruments: glasses of water, nails dropped on a brick, etc.

784.1922 C591t

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COSMIC CLIPS: ANIMATIONS FROM ASTRONOMERS

1 videocassette. VHS. 199?.

Contains a few of the many videos produced within the past few years by astronomers as part of their research.

523.2 C834c

THE CREATION OF THE UNIVERSE

1 videocassette. VHS. 90 min. 1988.

Using spectacular special effects, animation, computer graphics, and interviews with internationally renowned physicists, this program explores clues to the origin and evolution of the entire universe.

523.1 C912o

DEATH OF A STAR

1 videocassette. VHS. 58 min. 1987.

On February 23, 1987, a young Canadian astronomer witnessed one of the most violent cosmic events since the creation of the universe - a supernova - the gargantuan explosion resulting when a star blows itself apart. Nova covers this fast breaking story as astronomers from all over the world study the historic event.

523.8446 D285o

EXPERIENCE: FRACTAL IMAGES AND FRONTIERS OF CHAOS

1 videocassette. VHS. 20 min. 1987.

Shows ten titled segments of a variety of fractal formations moving to the accompaniment of electronic music.

516 E96f

EXPLORERS OF THE NUCLEUS: CYCLOTRON EXPERIMENT #190

1 videocassette. VHS. 51 min. 1987.

Examination of some of the people and processes of nuclear physics. The program centers around four physicists--Ed Stephenson, Chuck Foster, Karl Pitts, and Jim Sowinski--and the experiment conducted at the cyclotron facility, Indiana University, Bloomington.

539.7 E96o

FLYING BY THE PLANETS: THE VIDEOS

1 videocassette. VHS. 35 min. 1991.

Presents a series of computer-animated flights over Venus, Mars, Earth, and the Moon along with a tribute to the Voyager missions to Jupiter and Saturn.

523.1 F648b

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FRACTAL FANTASY

1 videocassette. VHS. 30 min. 1987.

An artistic study of over 20 different regions within a mathematically defined region known as the Mandelbrot Set.

516 F798f

FROM THE EARTH TO THE MOON

6 videocassettes. VHS. 639 min. 1998.

Produced with the cooperation of NASA, the miniseries follows the experiences of the Apollo astronauts in their mission to place a man on the moon.

629.45 F931t

HUBBLE: REPORT FROM ORBIT

1 videocassette. VHS. 30 min. 1992.

Follows the progress of the Hubble Space Telescope's mission, outlining both triumph and disappointment.

522.2919 H876r

HUNT FOR ALIEN WORLDS

1 videocassette. VHS. 60 min. 1997.

Examines new technological developments used in exploring our universe.

576.839 H939f

THE MAKING OF A BRIEF HISTORY OF TIME

1 videocassette. VHS. 30 min. 1993.

Documentary, produced for television in 1992, about making the movie Brief history of time, based on the book by Steven Hawking. The problems and solutions of adapting the book to film are revealed in this companion featurette to the film.

523.1 B853hm

MARS AND MERCURY

1 videocassette. VHS. 60 min. 19??.

Features two award-winning NASA programs. The first, Planet Mars, traces man's evolving theories of Mars from its discovery in 1669 to the historic Viking robot landing on its surface. The second program reveals our solar system's smallest planet in startling detail through the findings and photographs of the Mariner 10 spacecraft.

523.4 M363an

THE MECHANICAL UNIVERSE

13 videocassettes. VHS. 750 min. 1985.

Surveys of introductory college physics.

530 M486u

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MYSTERIES OF DEEP SPACE

3 videocassettes. VHS. 60 min each. 1997.

This series of three one-hour programs dives into the vastness of space as it presents the boldest new achievements of modern astronomy, joining astronomers as they probe the limits of the observable universe and peer into the violent world of black holes and supernovas. Combining live-action sequences, state-of-the-art computer animation and spectacular high-resolution images from the Hubble Space Telescope, the series provides viewers with a stunning new perspective on the universe.

523.1 M998o

PHYSICS, DANCE AND THE PAS DE DEUX

1 videocassette. VHS. 28 min. 1994.

Video includes short segments illustrating movements analyzed in the book, including the "Black Swan" pas de deux from Swan Lake.

612.04 P578d

THE PLANETS

8 videocassettes. VHS. 400 min. 1999.

Reveals a story of personal achievement and technological triumph, seen through the eyes of dozens of leading authorities on the leading edge of planetary exploration and on both sides of the high-stakes Cold War race into space. From our first glimpse of the dark side of the moon to the first high-risk dash through the rings of Saturn; from the search for extraterrestrial life to humanity's possible future on alien worlds, it's an epic journey of cosmic discovery, amazement, and adventure.

523.4 P712a

PLATE TECTONICS: A REVOLUTION IN THE EARTH SCIENCES

1 videocassette. VHS. 28 min. 1983.

Describes the theory and implications of plate tectonics.

551.8 P716t

POWERS OF TEN; A FILM DEALING WITH THE RELATIVE SIZE OF THINGS IN THE UNIVERSE AND THE EFFECT OF ADDING ANOTHER ZERO

1 videocassette. VHS. 9 min. 1978.

Dealing with scale, proportion, and dimension, the film moves in real time over a course of 40 powers of ten, from the cosmic distances of the universe to the heart of the atom. Some techniques used are classical and radio astronomy; large-format aerial, mapping, and satellite photography; X-ray diffraction analysis; and models.

500 P888o

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RACE FOR THE TOP QUARK

1 videocassette. VHS. 58 min. 1990.

Shows the competition between Fermilab in the United States and CERN in Europe to discover the "top quark" (the predicted, but not yet detected fundamental subatomic particle).

539.7216 R118f

THE RESEARCH PROCESS

1 videocassette. VHS. 26 min. 1990.

Provides an in-depth look at research itself -- a well-organized process still open enough to allow for the unorthodox and the unexpected. A visit to the lab of Thomas Edison shows how a major figure in the history of research operated.

530.072 R432p

SATELLITE IMAGING

1 videocassette. VHS. 18 min. 1989.

Compilation of five computer enhanced pieces using data visualization techniques: Monterey Bay; L.A., the movie; Earth, the movie; Mars, the movie; Miranda, the movie.

629.46 S253i

A SCIENCE ODYSSEY

5 videocassettes. VHS. 120 min each. 1998.

Science odyssey is a chronicle of twentieth century scientific adventure.

500 S416o

SCIENTIFIC VISUALIZATIONS

2 videocassettes. VHS. 60 min each. 1990.

A compilation of computer graphics produced by scientists at NCSA, including many short videos that have been entered at SIGGRAPH conventions. At the end of the second cassette, spokesman Bob Haber gives a live presentation in which he highlights features of the software used in these projects.

006.6 S416v

THE SEARCH FOR THE "W" AND "Z"

1 videocassette. VHS. 25 min. 198?.

The successful creation and detection of the "W" and the "Z" particles was the culmination of the work of hundreds of scientists and was recognized with the Nobel Prize for Maxwell and Faraday, the two team leaders. This excellent presentation does a great deal to explain modern particle physics.

539.721 S439f

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STEPHEN HAWKING'S UNIVERSE

6 videocassettes. VHS. 60 min each. 1997.

Presents the latest advances in cosmological thought, including the mathematics of astronomy, the Big Bang theory of creation, the nature of matter, the discovery, and implications of dark matter, quasars, and black holes, and the question of how the Big Bang began.

523.1 S828h

UNIVERSE

1 videocassette. VHS. 28 min. 198?.

Shows a mysterious and incredibly violent universe. Explores almost inconceivable extremes of size and time, from galaxies to subatomic particles and from cosmic events that occurred millions of years ago to microcosmic events of the present that endure only a billionth of a second.

523.1 U58aa

WHERE THE GALAXIES ARE

1 videocassette. VHS. 8 min. 1991.

Shows the steps in discovering how galaxies like our own Milky Way are arranged on scales of hundreds of millions of light years. A dramatic journey through our corner of the universe shows the remarkable, recently discovered soap-bubble-like pattern.

523.1 W567t