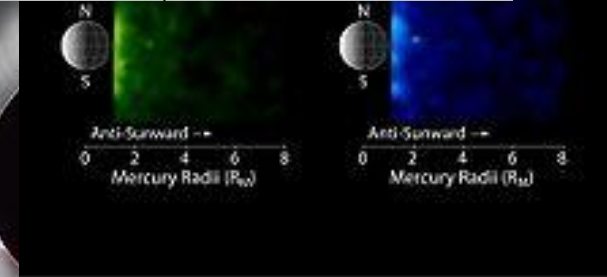
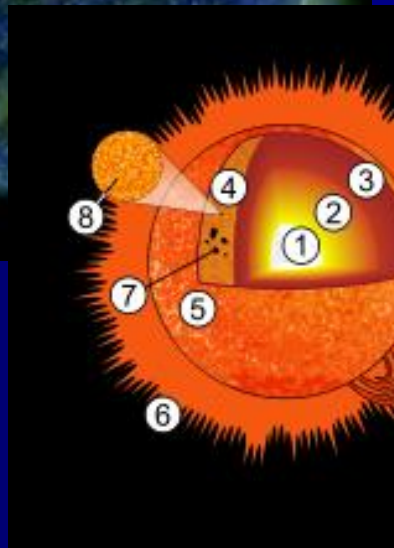
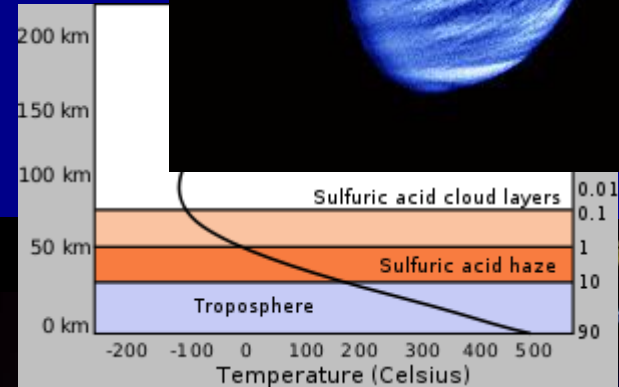
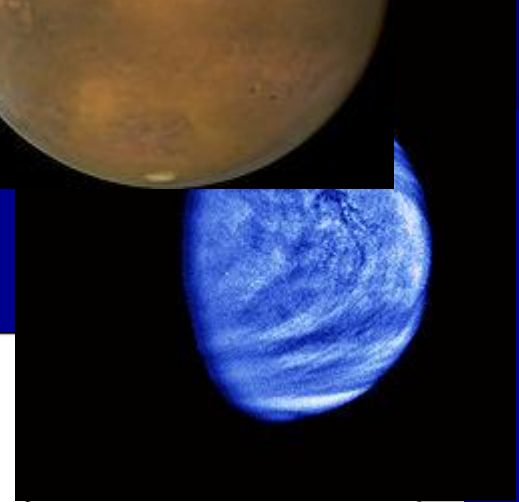
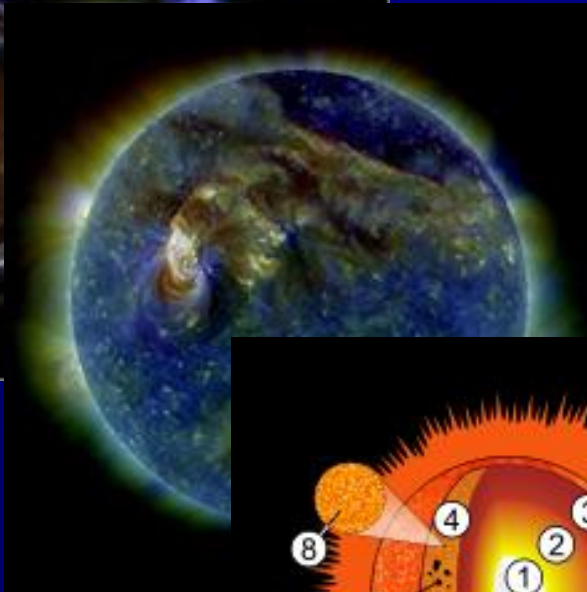
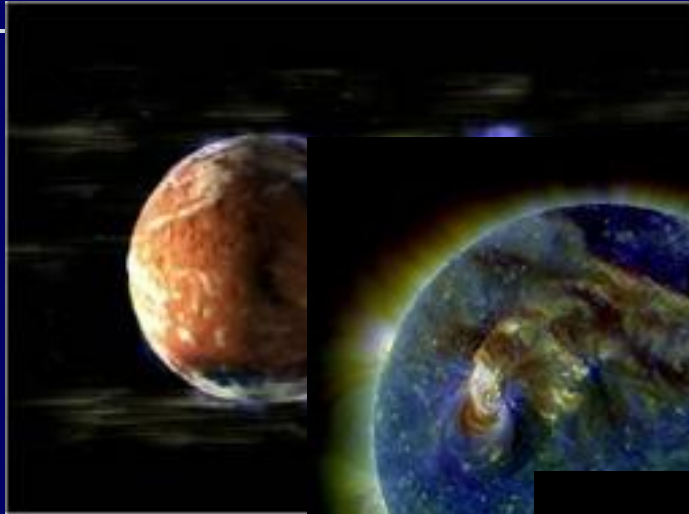


Space &
Atmospheric
Physics

Space & Atmospheric Physics

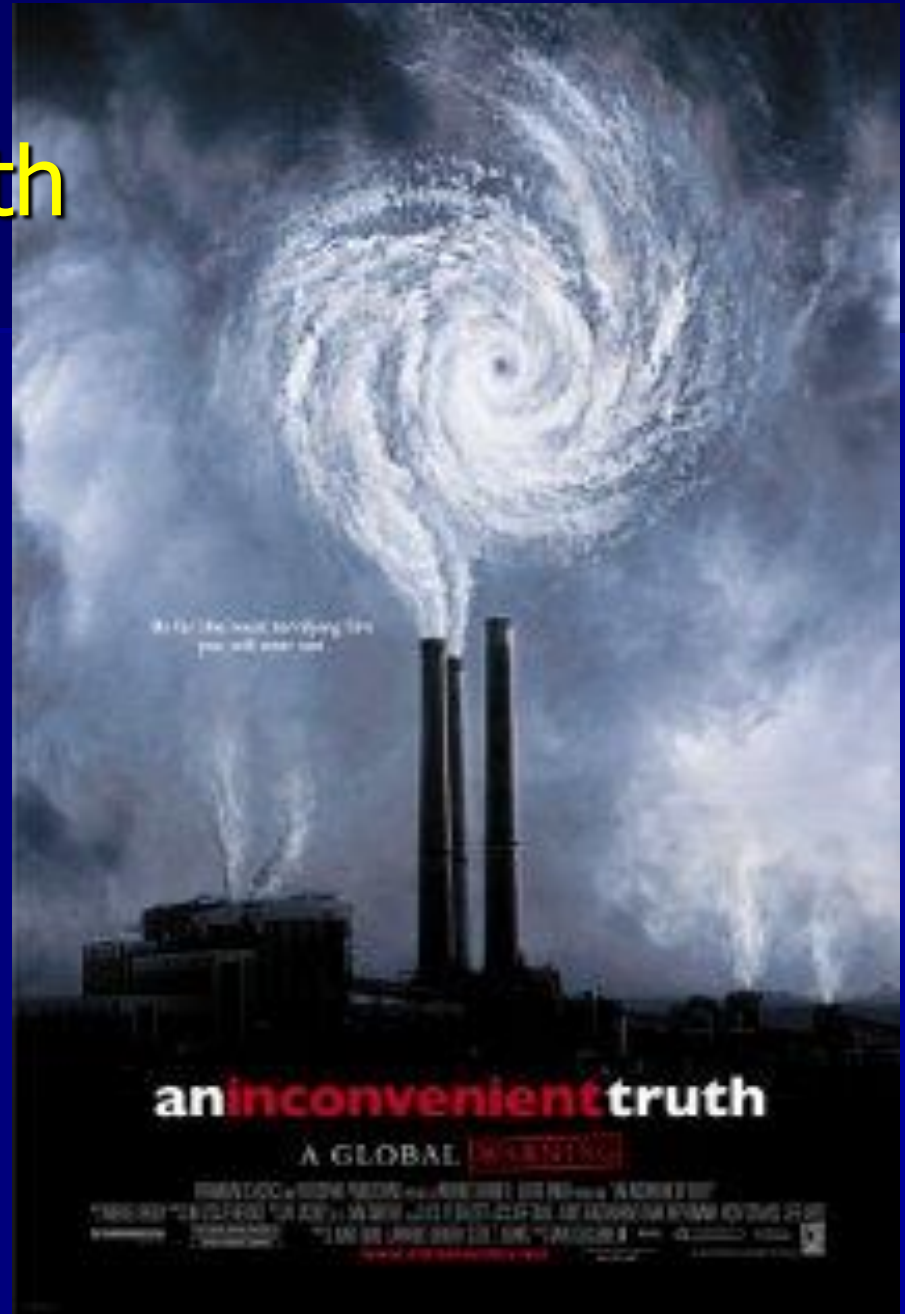


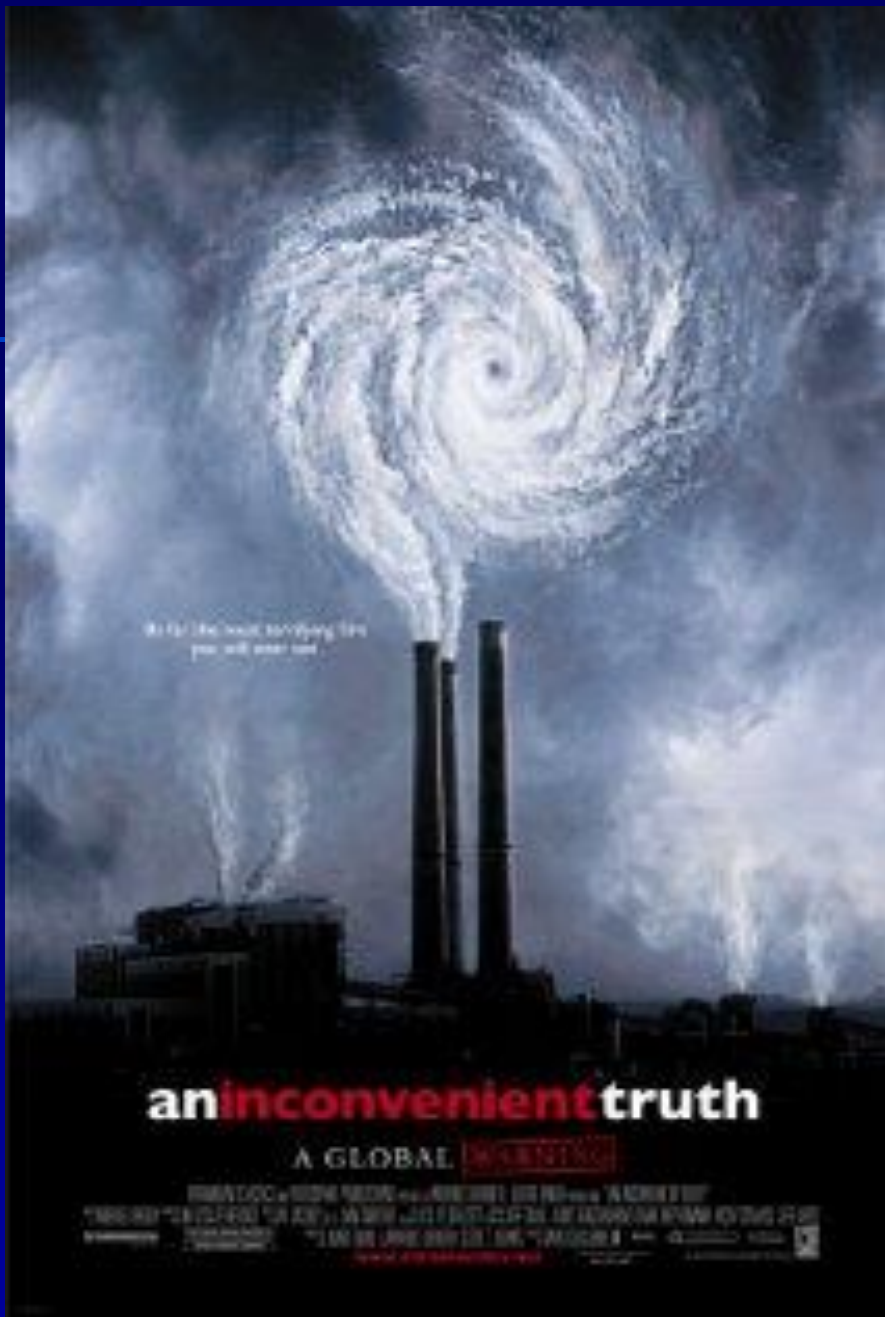
Lecture – 05 B

An Inconvenient Truth

Documentary Film
based on the
Global Warming...

(~ 100 min)





An Inconvenient Truth



en.wikipedia.org

An Inconvenient Truth is a 2006 documentary film directed by Davis Guggenheim about former United States Vice President Al Gore's campaign to educate citizens about global warming via a comprehensive ... Wikipedia

Release date: January 24, 2006 (initial release)

Director: [Davis Guggenheim](#)

DVD release date: November 21, 2006

Awards: NAACP Image Award for Outstanding Foreign Motion Picture, [More](#)

Producers: [Lawrence Bender](#), [Laurie David](#), [Al Gore](#)

Cast: [Al Gore](#), [Billy West](#)

A documentary on Al Gore's campaign to make the issue of global warming a recognized problem worldwide.

"It is now clear that we face a deepening global climate crisis that requires us to act boldly, quickly, and wisely," said Gore.

An Inconvenient Truth (2006)

Oscar-winning documentary about the environment featuring the unlikeliest of movie stars. Former presidential candidate **Al Gore** holds this film together as, in front of an audience and with few aids beyond photo slides, he explains how humans have messed up the planet. Gore issues an urgent warning on what must be done, and done quickly, to save the earth.

An Inconvenient Truth



Theatrical release poster

Directed by Davis Guggenheim
Produced by Laurie David
Lawrence Bender
Scott Z. Burns

Written by Al Gore
Starring Al Gore
Music by Michael Brook
Cinematography Bob Richman
Davis Guggenheim
Edited by Jay Cassidy
Dan Swietlik
Production company Lawrence Bender
Productions
Participant Productions
Distributed by Paramount Classics
Release date May 24, 2006
Running time 97 minutes^[1]
Country United States
Language English
Budget \$1.5 million^[2]
Box office \$49.8 million^[3]



An Inconvenient Sequel: Truth to Power (2017)

★ 6.3 /10
5,795

☆ Rate
This

PG | 1h 38min | Documentary | 4 August 2017 (USA)



A decade after [An Inconvenient Truth](#) (2006) brought climate change to the heart of popular culture, the follow-up shows just how close we are to a real energy revolution.

Directors: [Bonni Cohen](#), [Jon Shenk](#)

Writer: [Al Gore](#)

Stars: [Al Gore](#), [George W. Bush](#), [Bill Clinton](#) | [See full cast & crew »](#)

68 Metascore
From [metacritic.com](#)

Reviews
56 user | 99 critic

Nominated for 1 BAFTA Film Award. Another 3 wins & 12 nominations. [See more awards »](#)

Further More...

[FULL CAST AND CREW](#)

[TRIVIA](#)

[USER REVIEWS](#)

[IMDbPro](#)

[MORE](#) ▾

[SHARE](#)



Not Evil Just Wrong (2009)

★ 5.8/10
227

☆ Rate This

PG | 1h 30min | Documentary | 18 October 2009 (USA)



Examines how extreme environmentalism is damaging lives of vulnerable populations in the developed and developing world, from the ban on DDT to the current campaigns on global warming.

Directors: [Phelim McAleer](#), [Ann McElhinney](#)

Writers: [Phelim McAleer](#), [Ann McElhinney](#)

Reviews

4 user | 1 critic

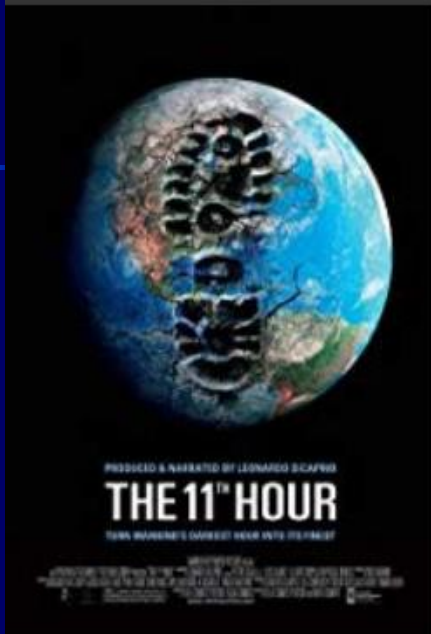


The 11th Hour (2007)

★ 7.3 /10
5,327

☆ Rate This

PG | 1h 35min | Documentary | 10 October 2007 (Philippines)



2:19 | Trailer

2 VIDEOS | 38 IMAGES

A look at the state of the global environment including visionary and practical solutions for restoring the planet's ecosystems.

Directors: [Leila Conners](#) (as Leila Conners Petersen), [Nadia Conners](#)

Writers: [Leila Conners](#) (as Leila Conners Petersen), [Nadia Conners](#) | [1 more credit](#) »

Stars: [Leonardo DiCaprio](#), [Kenny Ausubel](#), [Thom Hartmann](#) | [See full cast & crew](#) »

63 Metascore
From metacritic.com

Reviews
50 user | 82 critic

3 nominations. [See more awards](#) »

Further More...



Everything's Cool (2007)

Not Rated | 1h 29min | Documentary | 31 May 2007 (USA)

★ 6.8₂₀₀/10

☆ Rate This



For the past two decades researchers, activists, scientists, and progressive politicians have struggled to rouse the public and the federal government to take action on global warming. ...

[See full summary »](#)

Directors: Daniel B. Gold, Judith Helfand

Stars: Daniel B. Gold, Ross Gelbspan, Bill McKibben |

[See full cast & crew »](#)

54

Metascore

From metacritic.com

Reviews

5 user | 11 critic

1 nomination. [See more awards »](#)

Further More...



Before the Flood (2016)

★ 8.3 / 10
21,197

☆ Rate This

PG | 1h 36min | Documentary, News | 30 October 2016 (USA)



A look at how climate change affects our environment and what society can do to prevent the demise of endangered species, ecosystems and native communities across the planet.

Director: [Fisher Stevens](#)

Writer: [Mark Monroe](#)

Stars: [Leonardo DiCaprio](#), [Ki-moon Ban](#), [Alejandro G. Iñárritu](#) | [See full cast & crew »](#)

63 **Metascore**
From [metacritic.com](#)

Reviews
142 user | 29 critic

2 wins & 7 nominations. [See more awards »](#)

The Ionosphere

Introduction

The Chapman Layer Theory

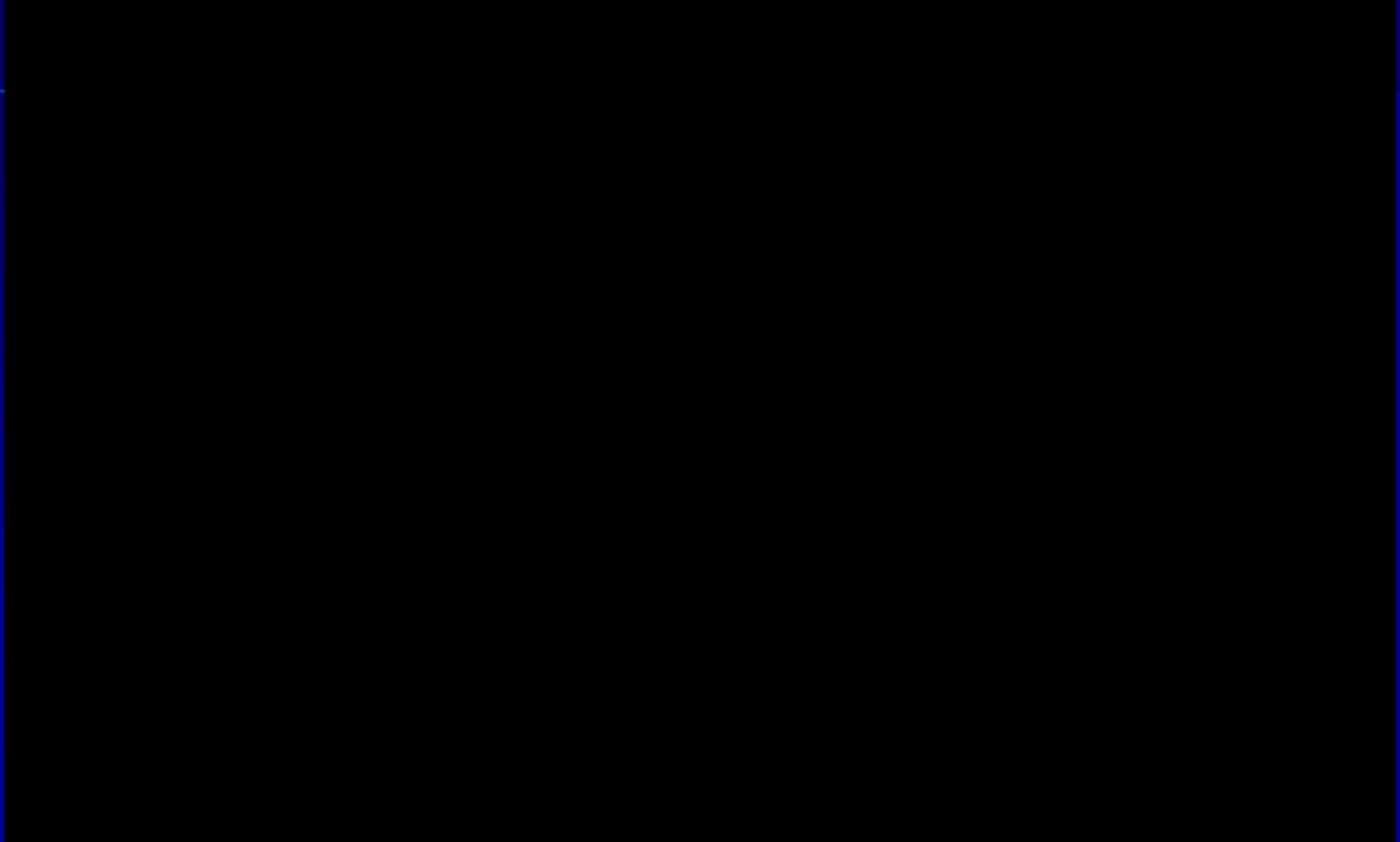
Plasma Frequency

Collision Frequency and Absorption

The Structure of the Ionosphere and the Plasmasphere

Regular and Irregular Variations of the Ionosphere

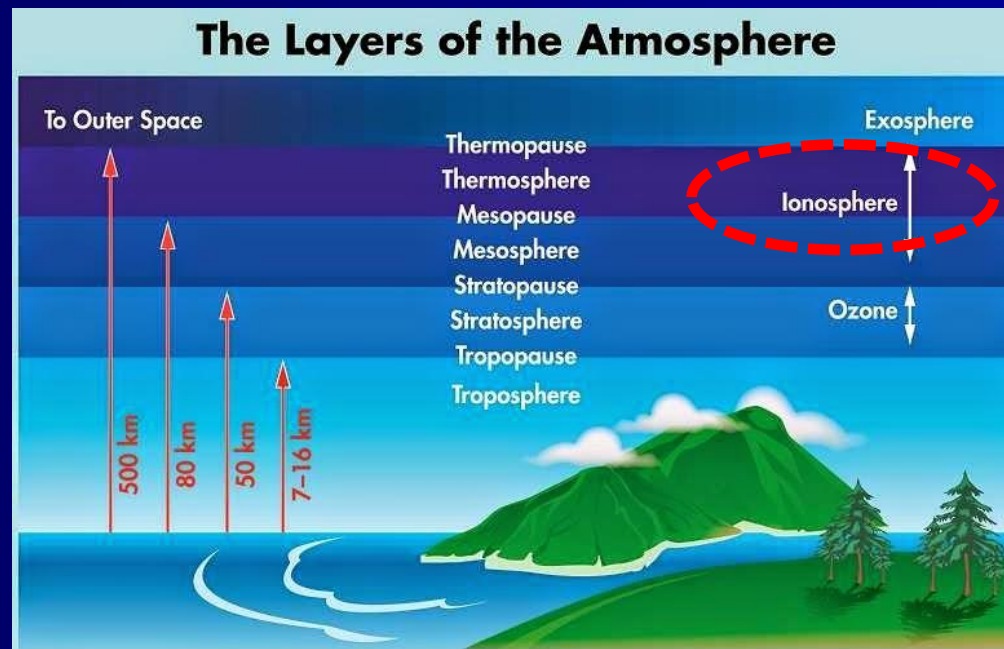
Introduction – A video



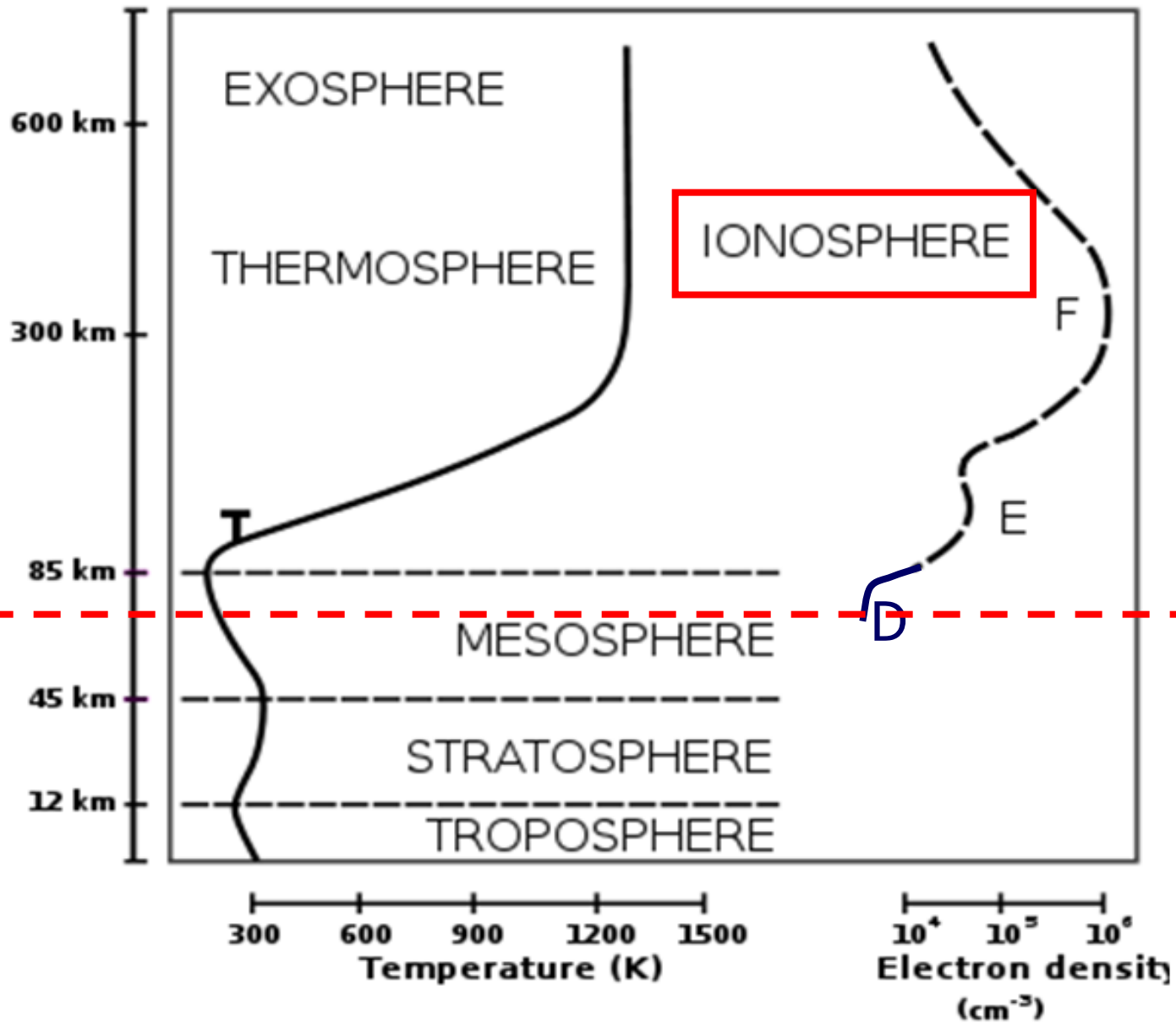
Introduction

The ionosphere is a portion of the upper atmosphere, between the thermosphere and the exosphere, distinguished because it is ionized by solar radiation.

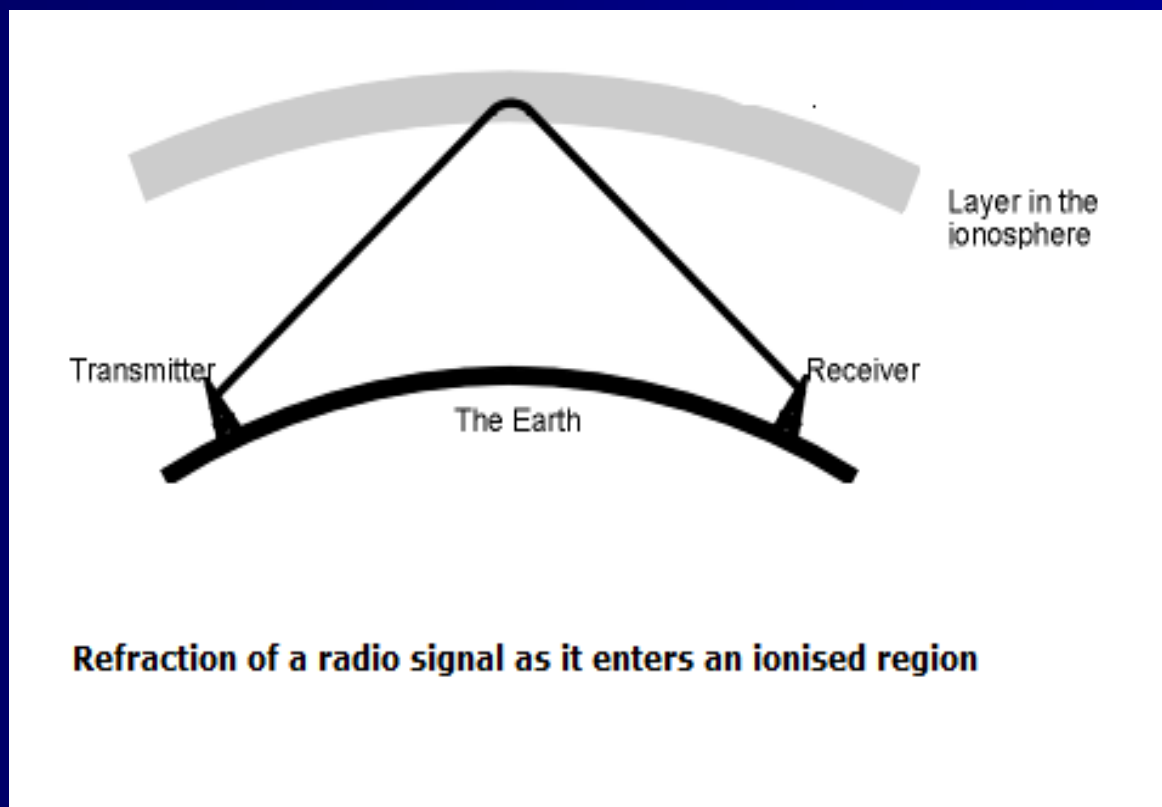
The ionosphere is a shell of **electrons** and **electrically charged atoms** and **molecules** that surrounds the Earth, stretching from a height of about **70 km** on up.



Relationship of the atmosphere and ionosphere



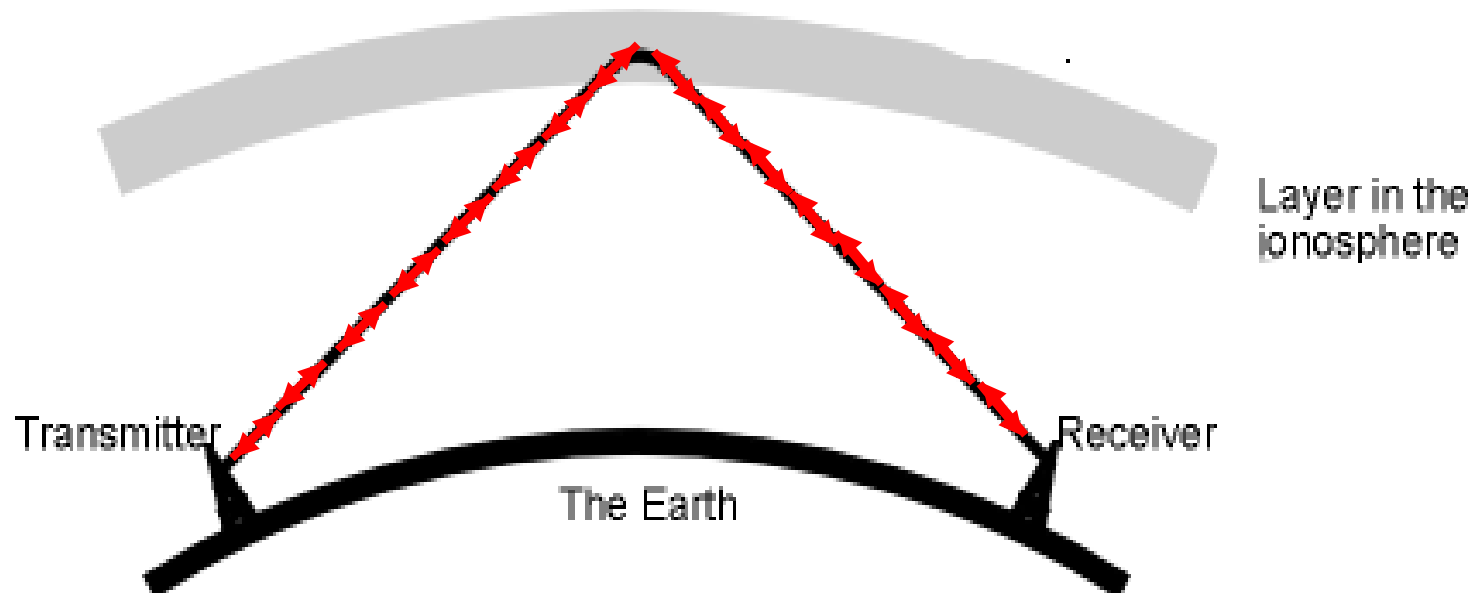
The existence of the ionosphere, as an electrically conducting region of the atmosphere, was first suggested by the Scottish meteorologist **Belfour Stewart** in **1883**. It has practical importance because among other functions, it influences Radio Propagation to distant places on Earth.



Marconi's successful experiments in 1901 of wireless communication across the Atlantic prompted **Heaviside** and **Kennelly** to postulate independently the existence of an **ionized layer** in the atmosphere. This electrically conducting layer was originally called the **Heaviside Layer** and later the **E-Layer** because of its many free electrons.

The E-layer as seen in the following figure, acts as a **reflector** and makes it possible for Radio Signals to bridge large distance over the spherical Earth. **The E-layer is an altitude of approximately 110 km.**

The Ionosphere acting as a reflector of radio waves making possible radio telecommunication over the horizon.



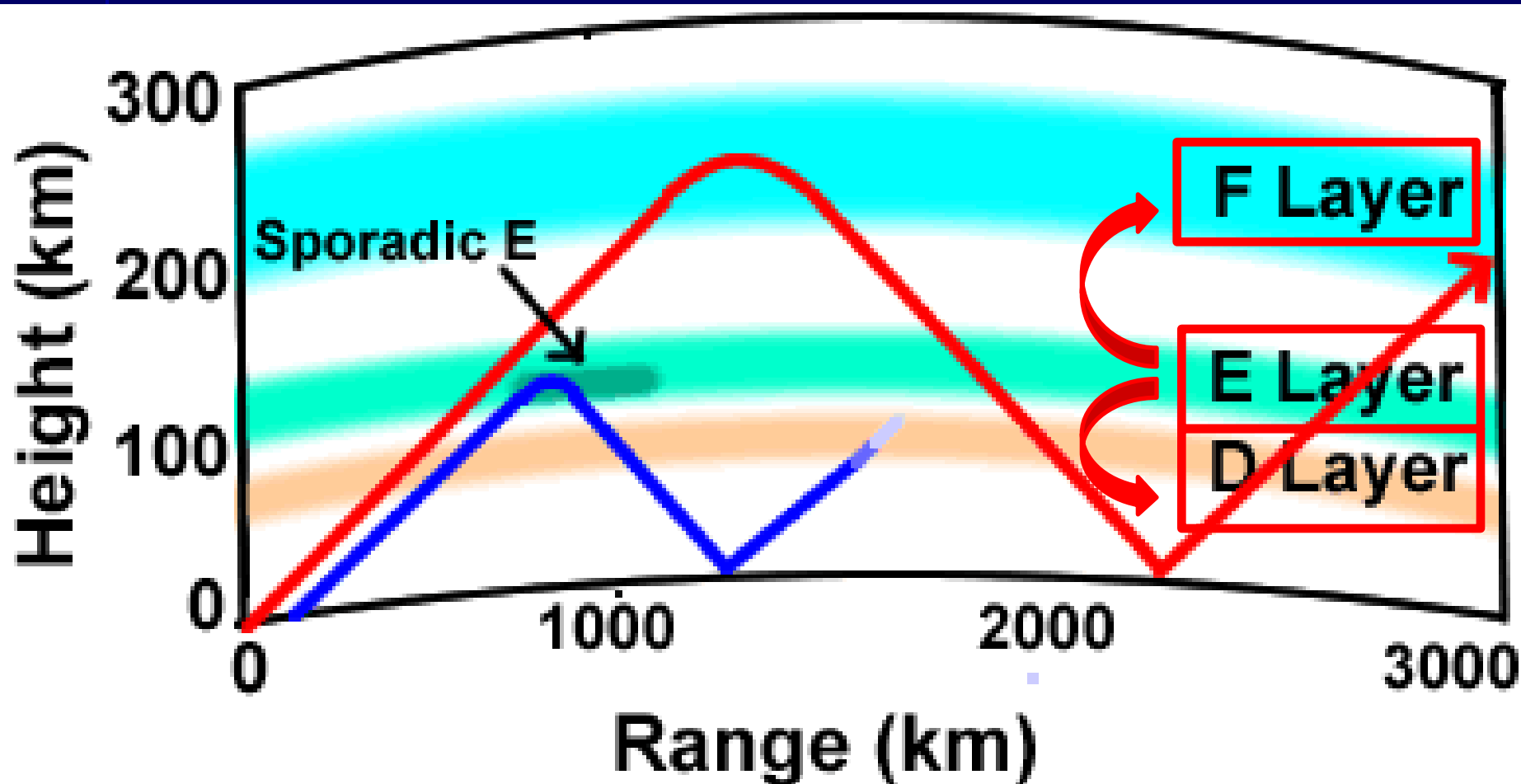
Refraction of a radio signal as it enters an ionised region

The First attempts to **study the structure of the ionosphere with Radio signals bounced back from the ionosphere** were made in **1925** by **Appleton** and **Barnett** in England.

Similar ionospheric sounding experiments were performed also in America in **1928** by **Brest** and **Tuve**.

An ionospheric sounder consists basically of a **Radio Transmitter** and a **Radio Receiver** connected in a way which allows them to **measure the time interval** between the transmission and the return of the Radio Pulse.

By multiplying one half of this time interval, which is of the order of a millisecond, with the speed of light, we obtain the **heights of the Reflection Layer**.

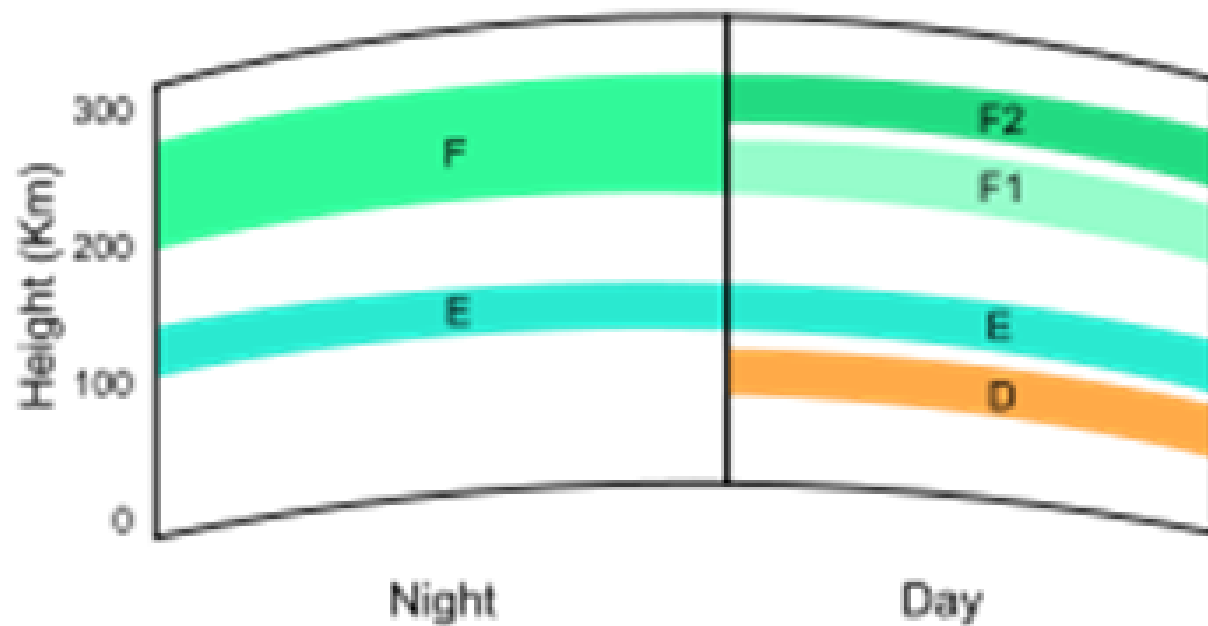


The ionospheric layers

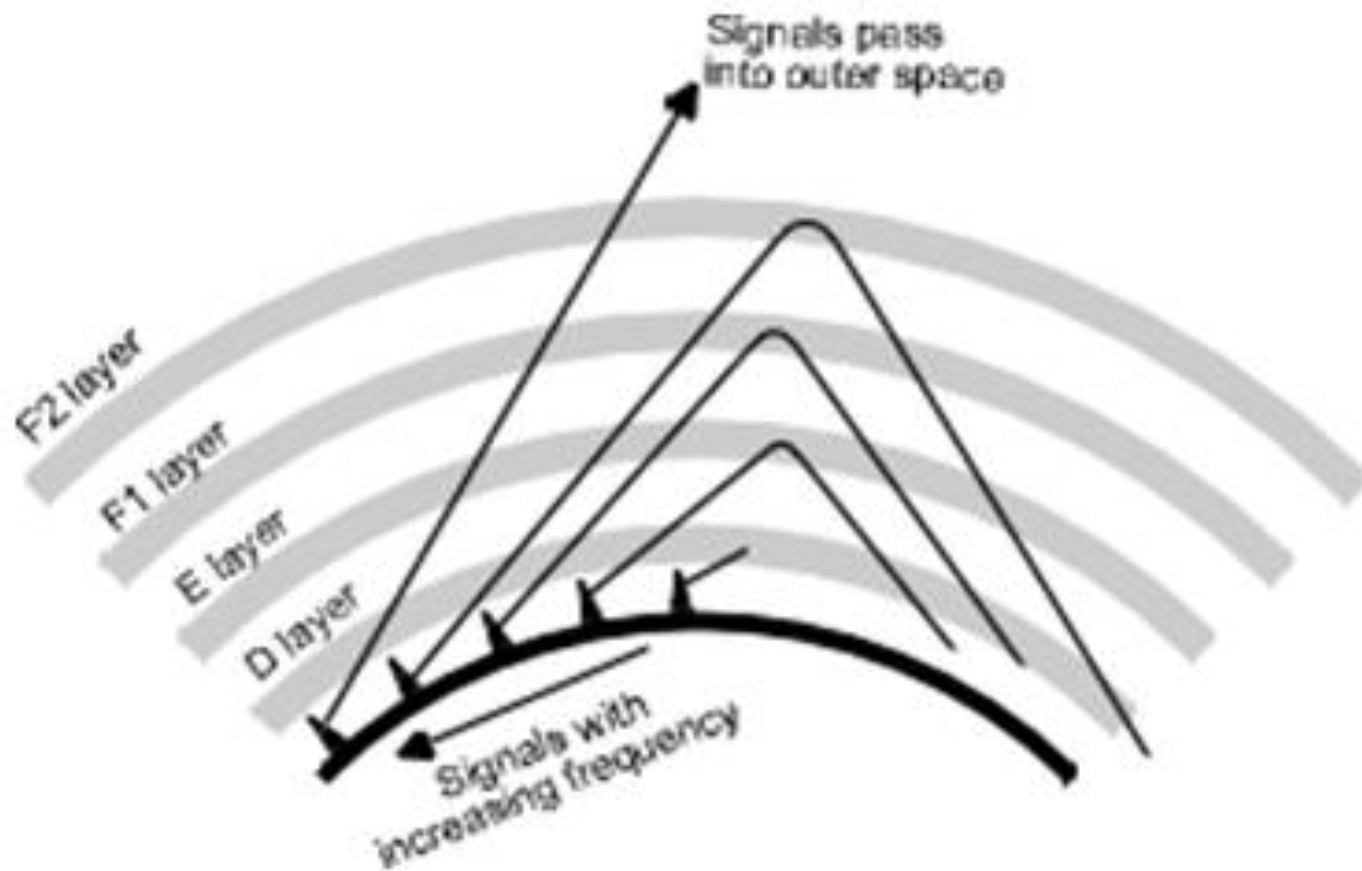
At night the **F layer** is the only layer of significant ionization present, while the ionization in the **E** and **D** layers is extremely low.

During the day, the **D** and **E** layers become much more heavily ionized, as does the **F layer**, which develops an additional, weaker region of ionisation known as the **F1 layer**. The **F2 layer** persists by day and night and is the region mainly responsible for the refraction of radio waves.

The ionospheric layers

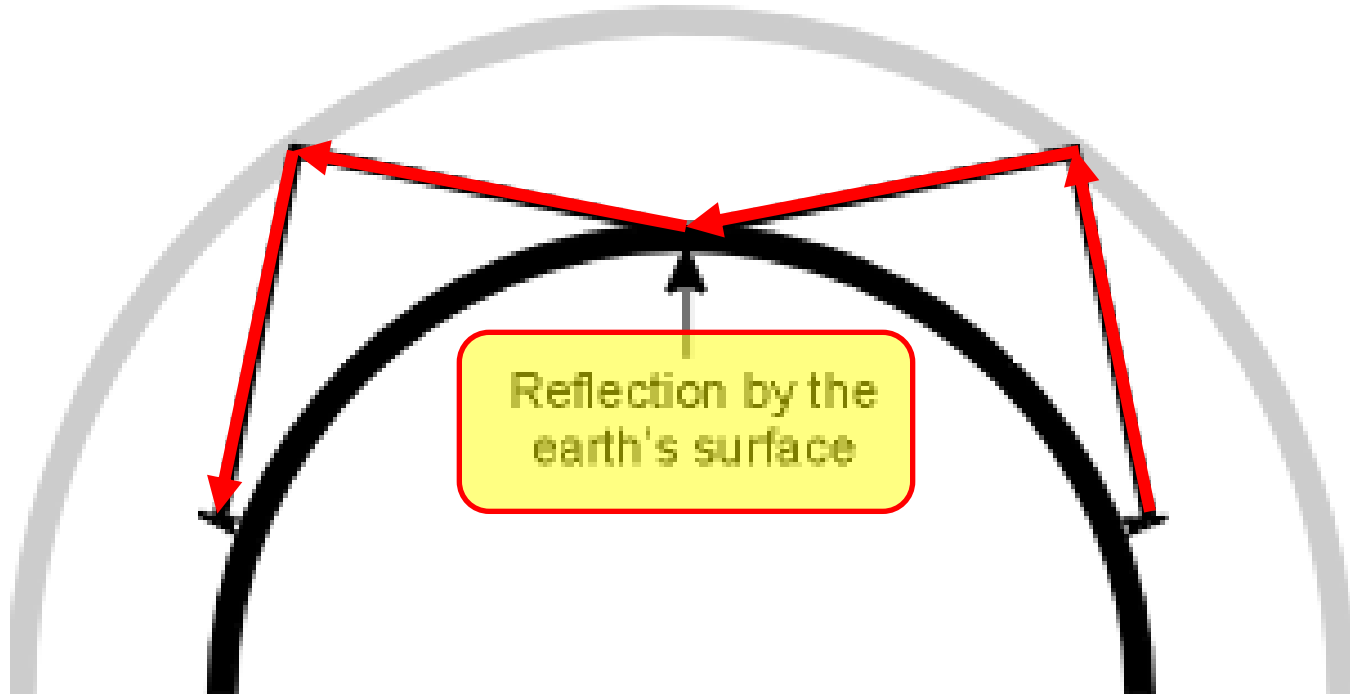


Ionospheric layers.



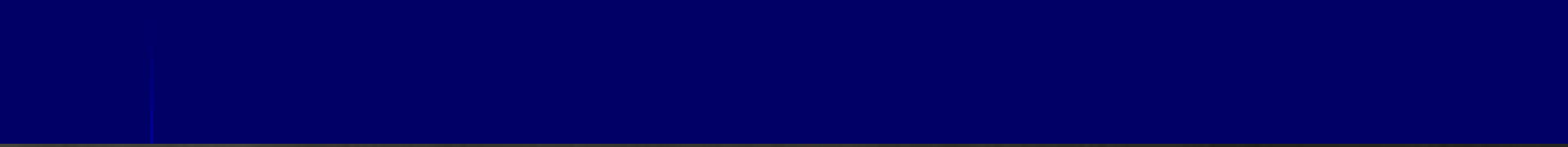
Signals reflected by the E and F regions

Layer in the ionosphere



Multiple reflections

PROPAGATION OF ELECTROMAGNETIC WAVES



Thank You !