

A decorative graphic on the left side of the slide, consisting of a network of white lines and small circles on a blue gradient background, resembling a circuit board or a stylized tree structure.

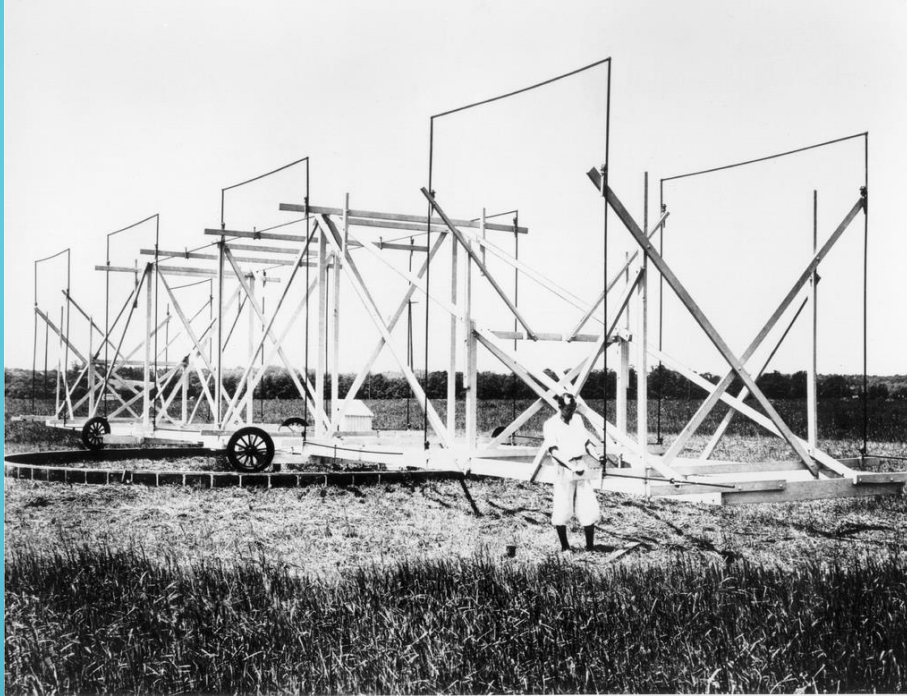
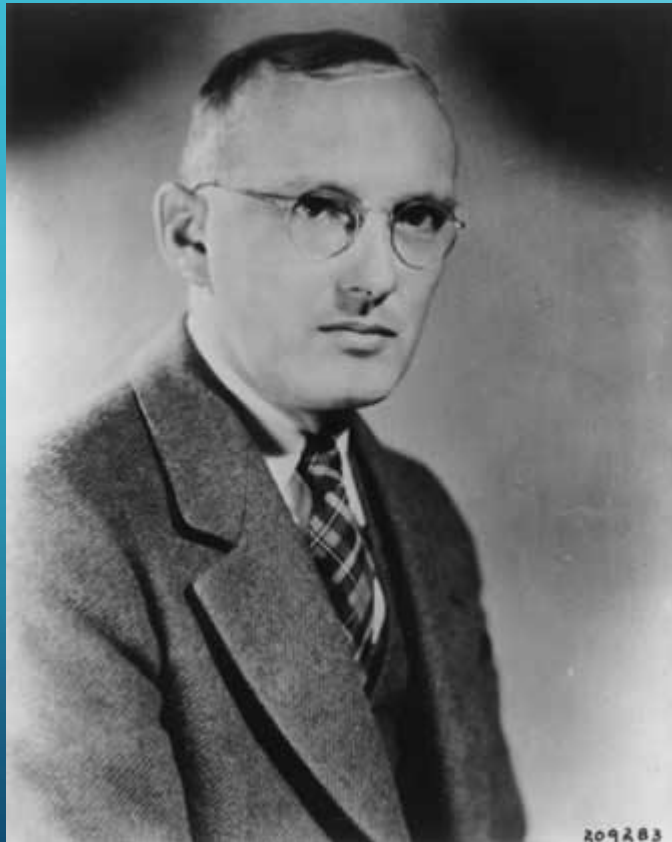
LOOP ANTENNA LESSON PLAN

ATTACHMENT C: SLIDES TO ACCOMPANY SELECTED LESSONS

A decorative graphic on the left side of the slide, consisting of a network of white lines and small circles on a blue gradient background, resembling a circuit board or a neural network.

SLIDES FOR LESSON #4

KARL JANSKY



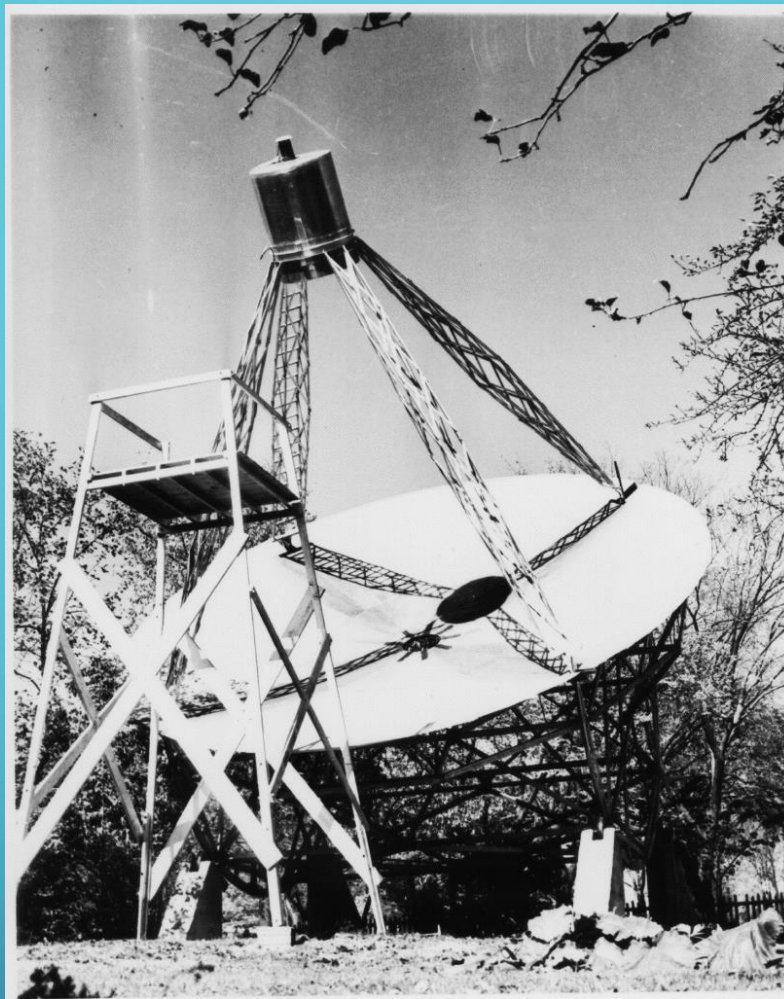
Jansky's
"Merry-Go-Round"
Antenna



A replica of
Jansky's
Antenna is
located in
Green Bank,
WV

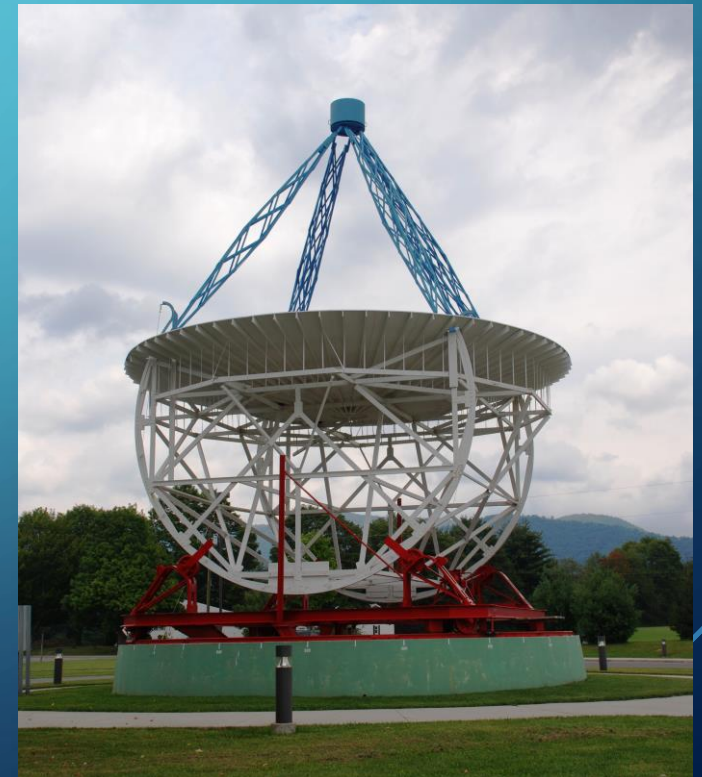


GROTE REBER



Reber's telescope
in his backyard
in Illinois

Reber's telescope
was relocated to
Green Bank, WV,
where it is today



RUBY PAYNE-SCOTT



Payne-Scott with two
of her colleagues in
Australia

Payne-Scott discovered
Type I and Type III solar
bursts





Check out this timeline of the Green Bank
Observatory:

<https://greenbankobservatory.org/timeline-green-bank-observatory/>



A decorative graphic on the left side of the slide, consisting of a network of light blue lines and small circles, resembling a circuit board or a stylized tree structure, set against a dark blue background.

SLIDES FOR LESSON #5

LAYERS OF THE EARTH'S ATMOSPHERE

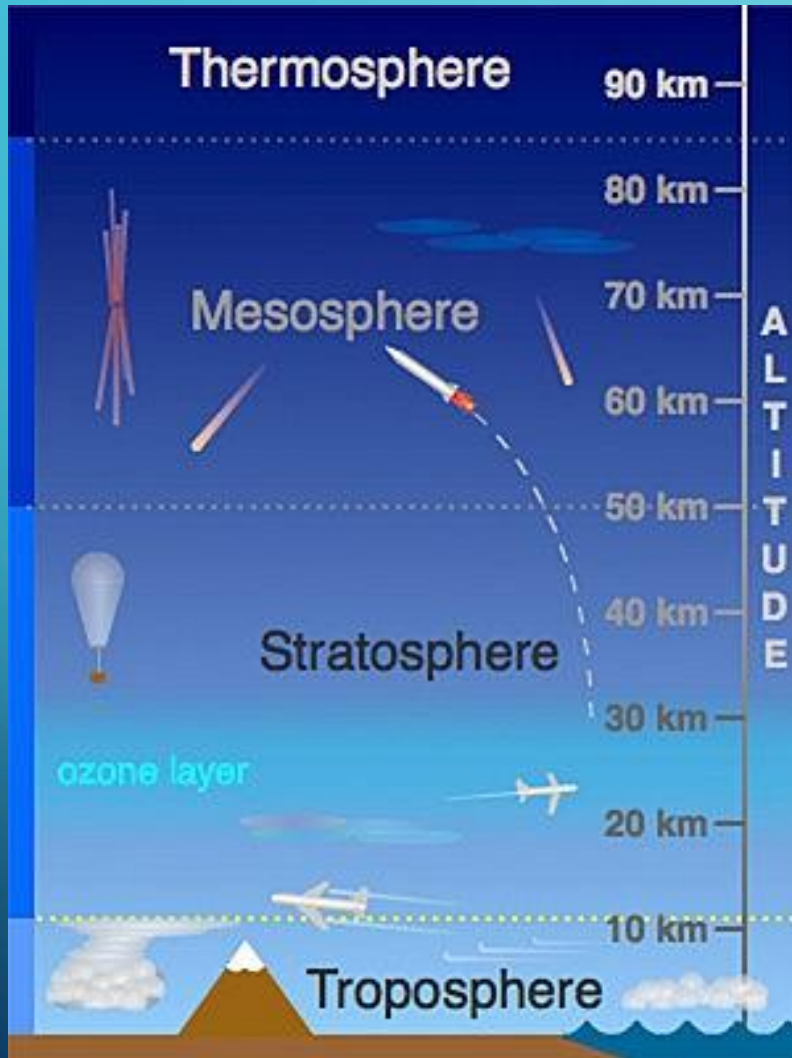


Image credit: scied.ucar.edu/atmosphere-layers

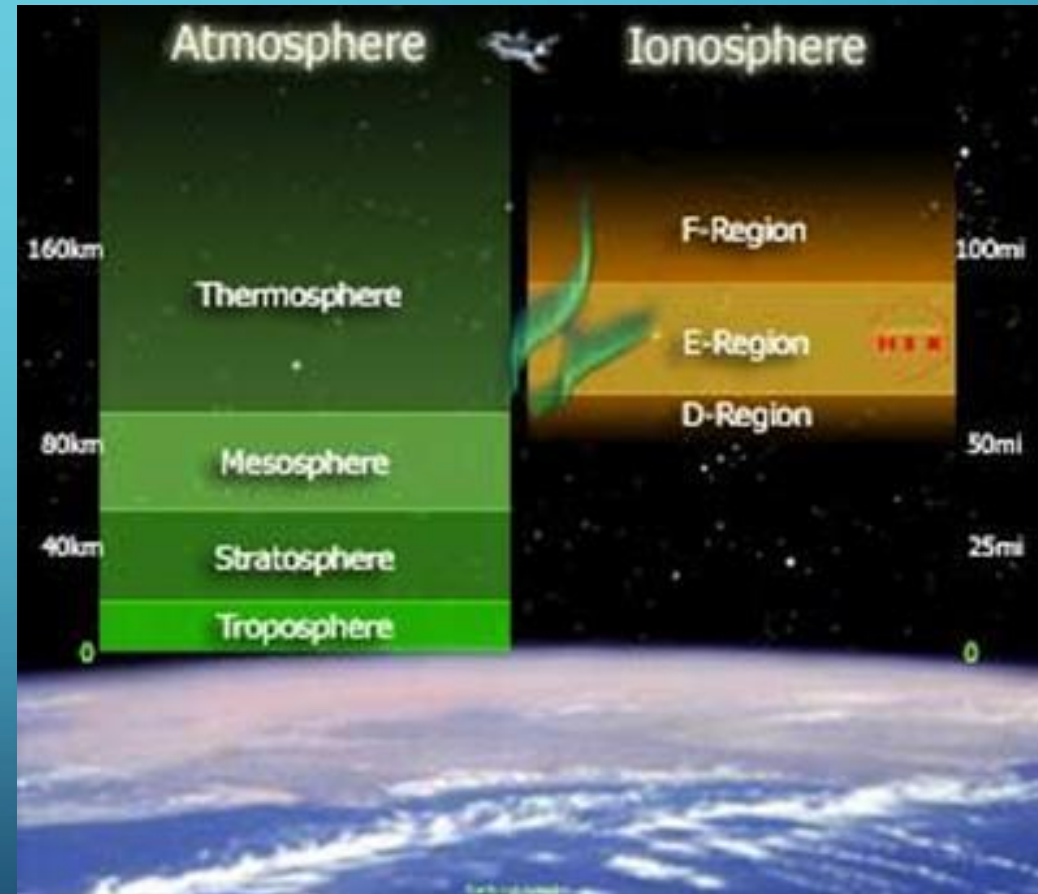


Image credit: solar-center.stanford.edu/SID/activities/ionosphere.html

HOW VLF SIGNALS BOUNCE OFF THE IONOSPHERE

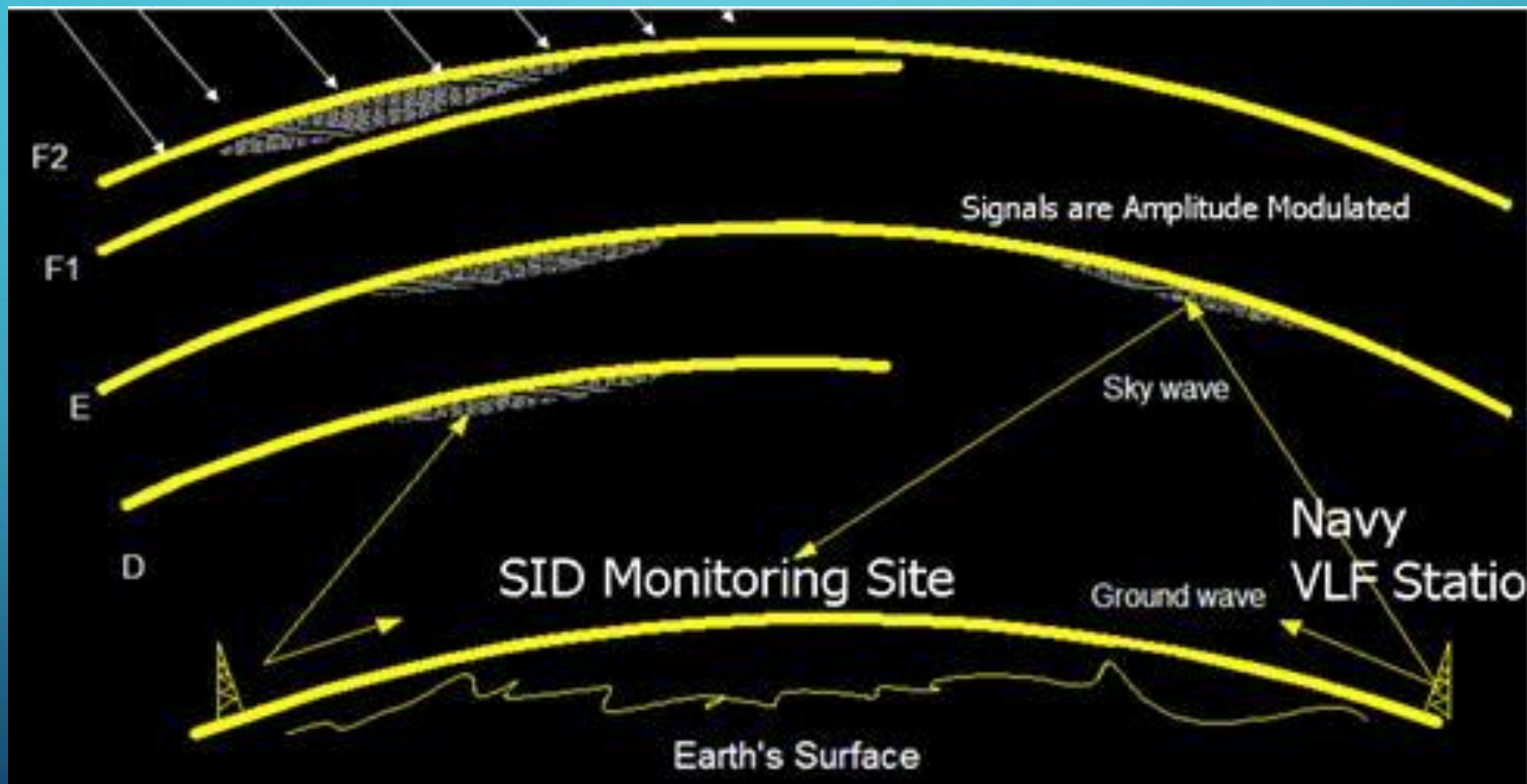


Image credit: solar-center.stanford.edu/SID/activities/ionosphere.html

A decorative graphic on the left side of the slide, consisting of a network of white lines and small circles on a blue gradient background, resembling a circuit board or a stylized tree structure.

SLIDES FOR LESSON #5

FARADAY'S LAW

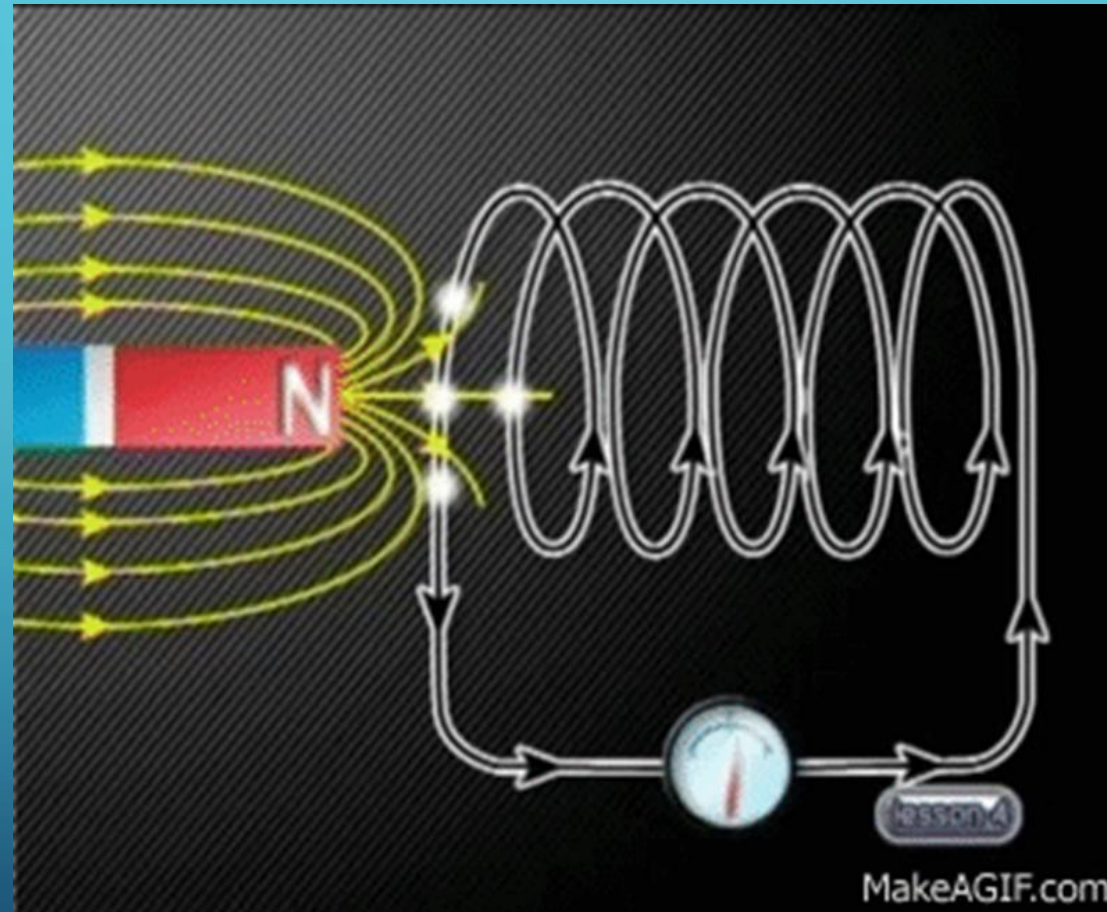


Image source: makeagif.com

A decorative graphic on the left side of the slide, consisting of a network of light blue lines and small circles, resembling a circuit board or a stylized tree structure, set against a blue gradient background.

SLIDES FOR LESSON #11

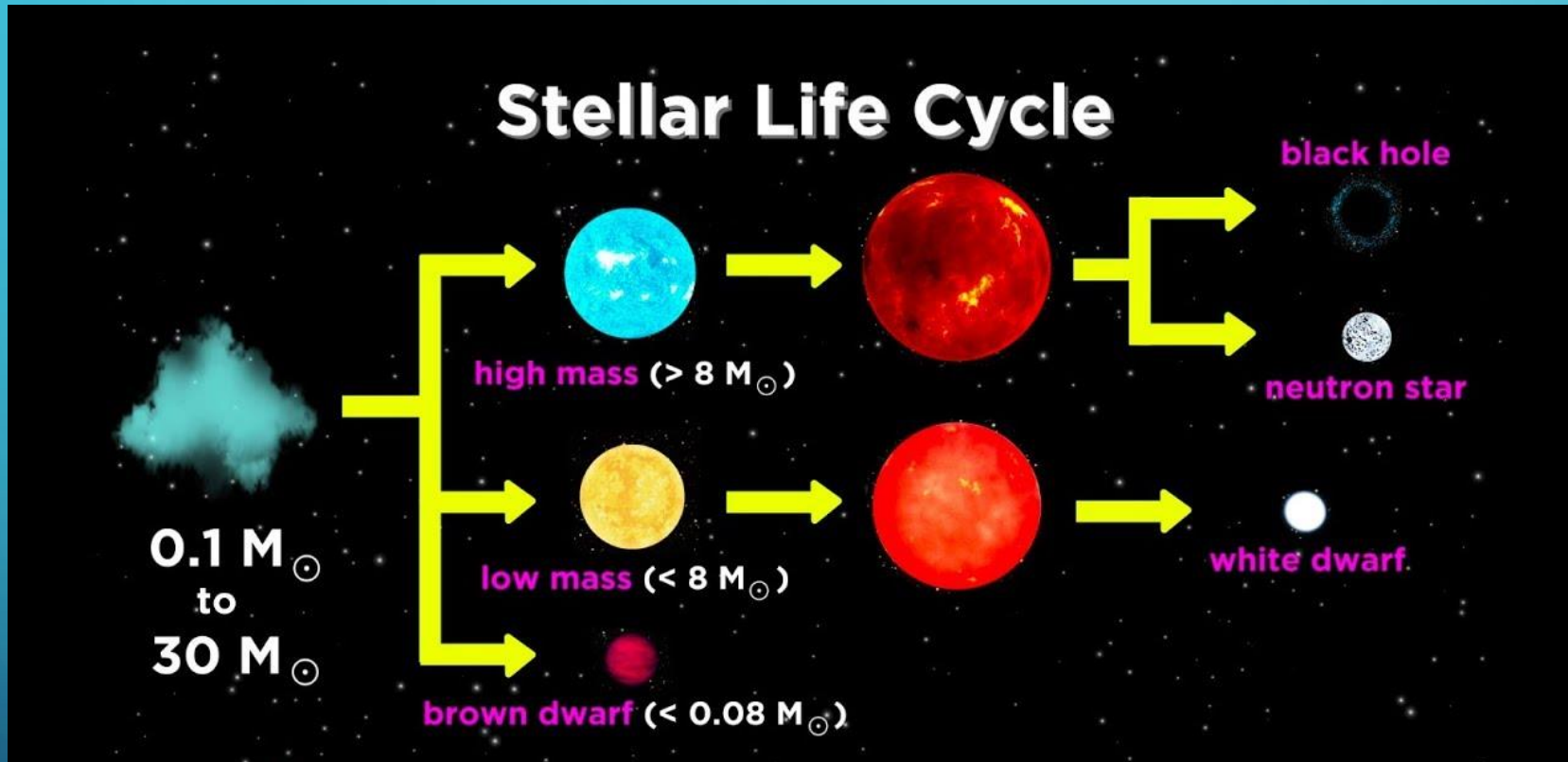


Image source: www.youtube.com/watch?v=4xIQGbYur9Q

*Note that M stands for “solar mass” – the mass of our Sun. So a star with a mass of $5 M$ would have a mass that is 5 times the mass of the Sun.

NEBULA



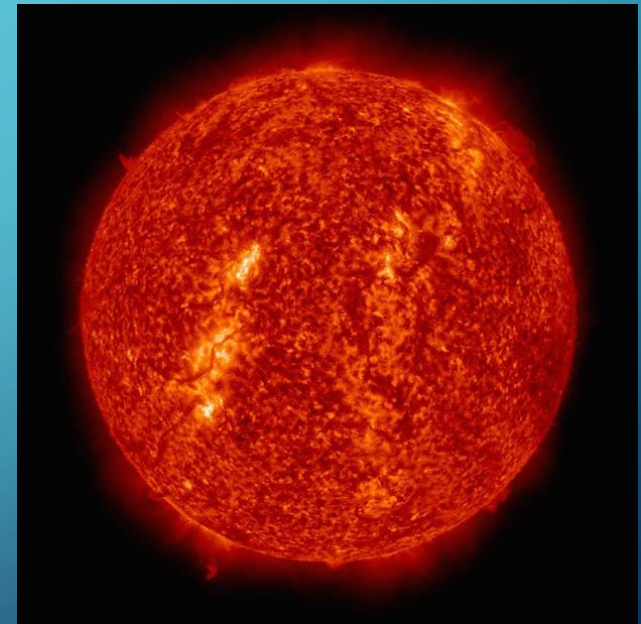
en.wikipedia.org/wiki/Nebula

MAIN SEQUENCE STAR



en.wikipedia.org/wiki/Blue_giant

RED GIANT



www.spaceanswers.com/deep-space/new-images-of-red-giant-star-could-reveal-the-suns-future/

THE STAR THEN BECOMES A...

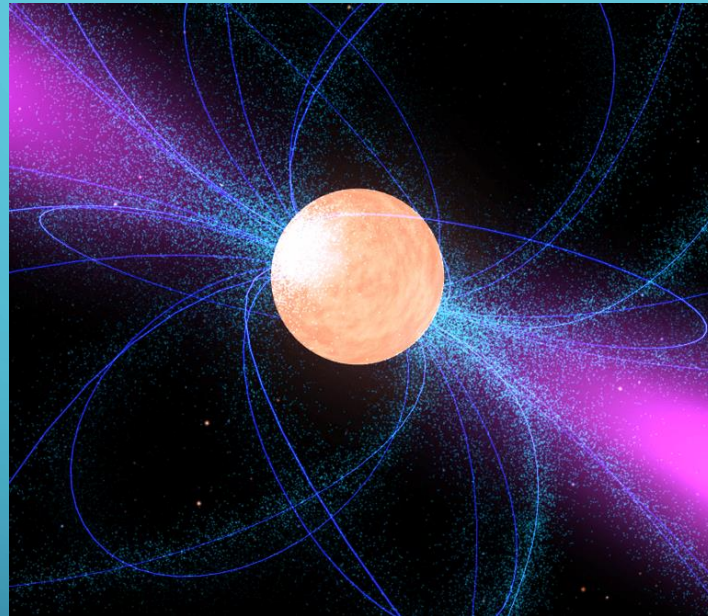
WHITE DWARF



https://en.wikipedia.org/wiki/White_dwarf

OR

NEUTRON STAR

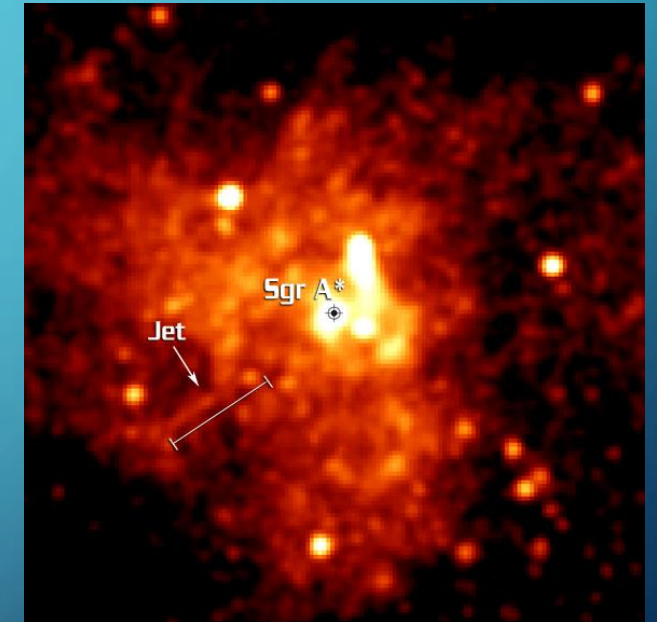


<https://phys.org/news/2017-06-neutron-stars-gps-deep-space.html>

This is an artist's interpretation of a neutron star – they're so small that it's hard to take pictures of them!

OR

BLACK HOLE



https://heasarc.gsfc.nasa.gov/docs/objects/heapow/archive/normal_galaxies/sgr_a_chandra.html

We can't see black holes because they don't emit light, we can just tell where they are by observing things around them. In this picture, the black hole is located near the word "Sgr A*".

HERTZSPRUNG-RUSSELL (H-R) DIAGRAM

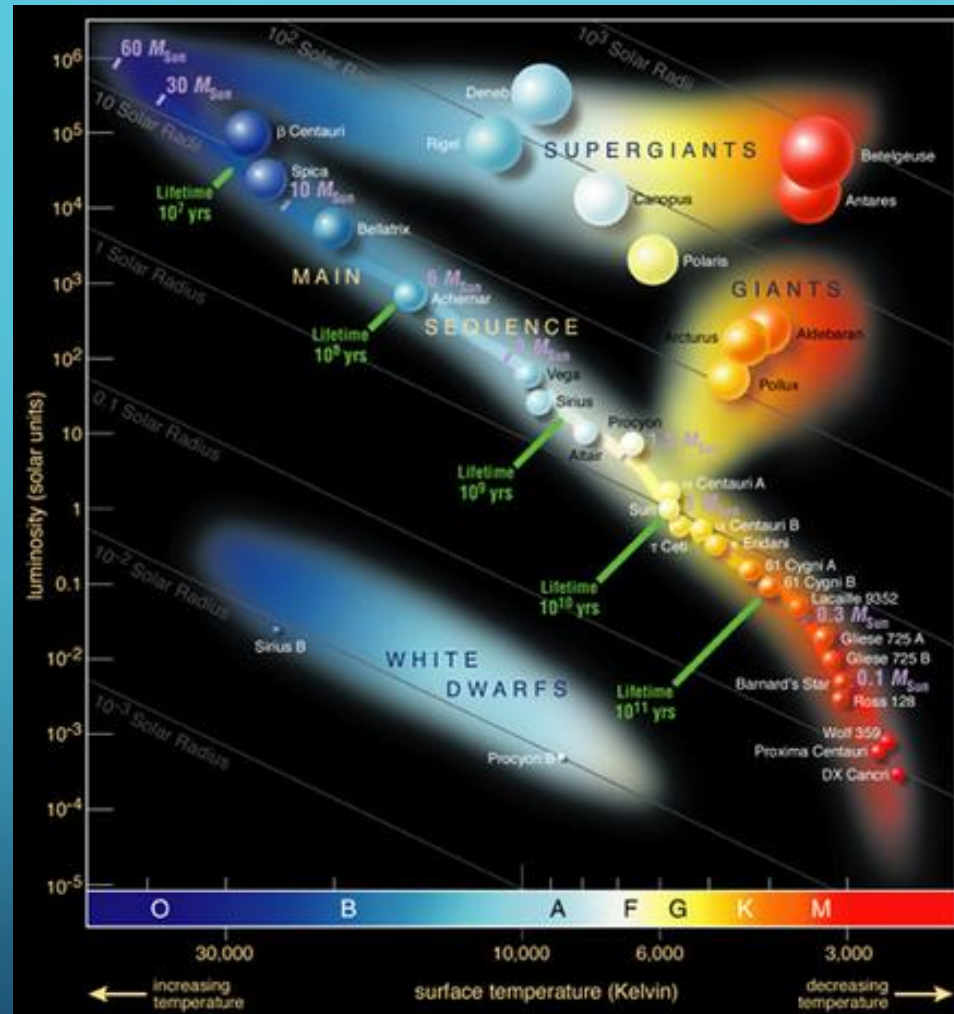
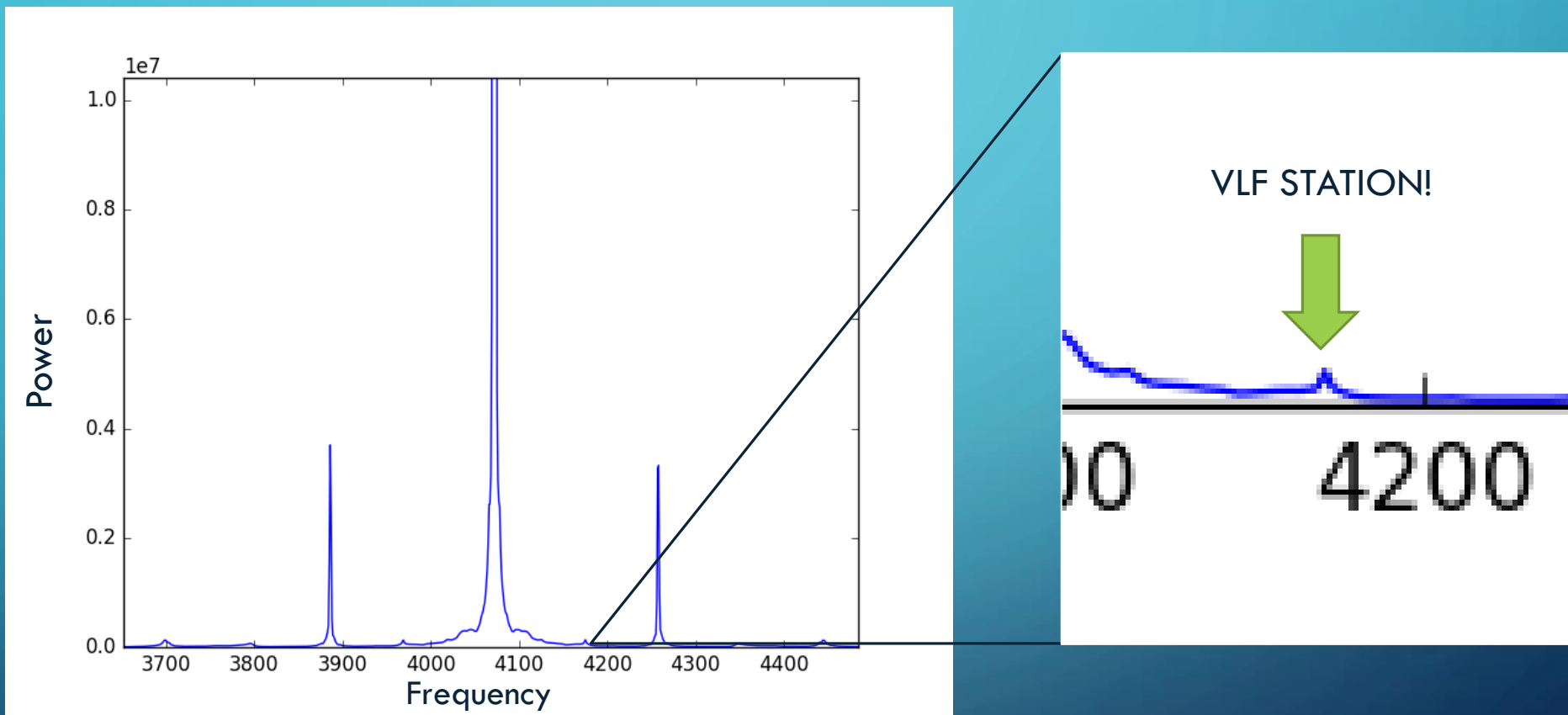


Image credit: en.wikipedia.org/wiki/Hertzsprung%E2%80%93Russell_diagram

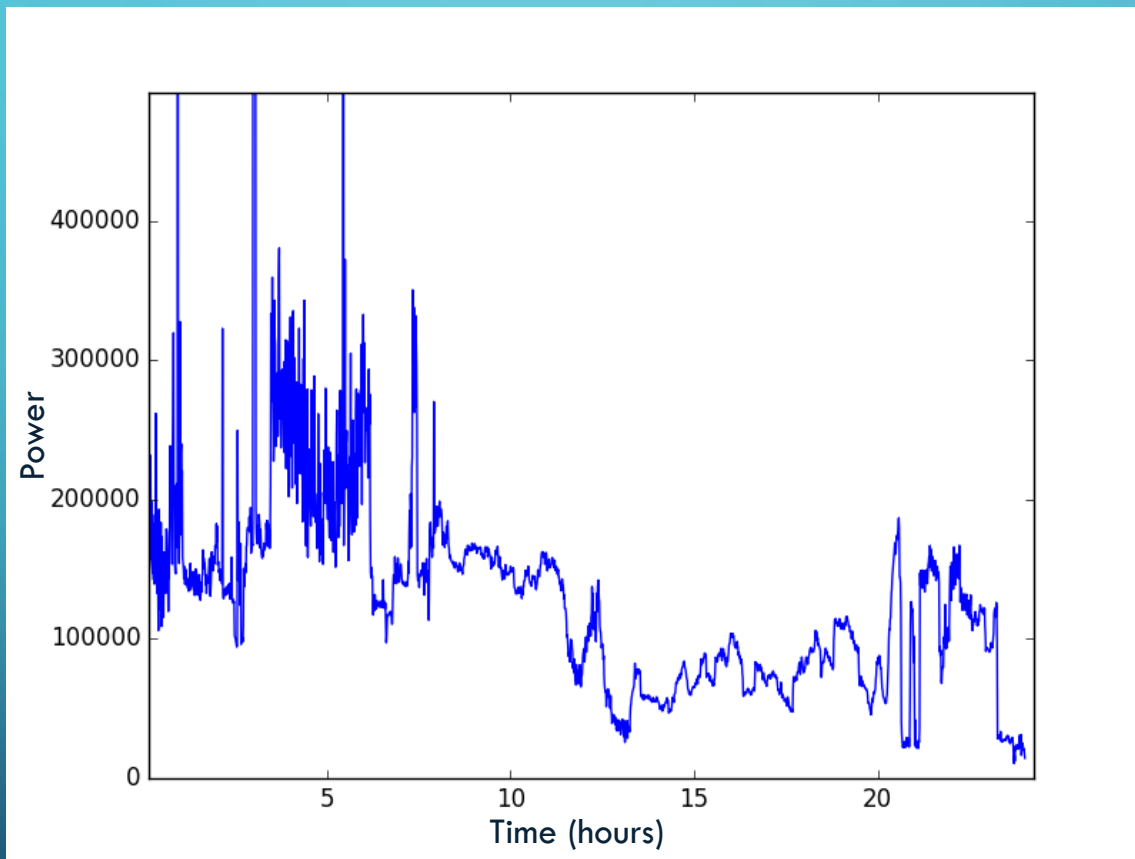
A decorative graphic on the left side of the slide, consisting of a network of white lines and small circles on a blue gradient background, resembling a circuit board or neural network.

SLIDES FOR LESSON #15

EXAMPLE SPECTRUM PLOT



TIME SERIES PLOT



DATA FROM STANFORD SOLAR CENTER

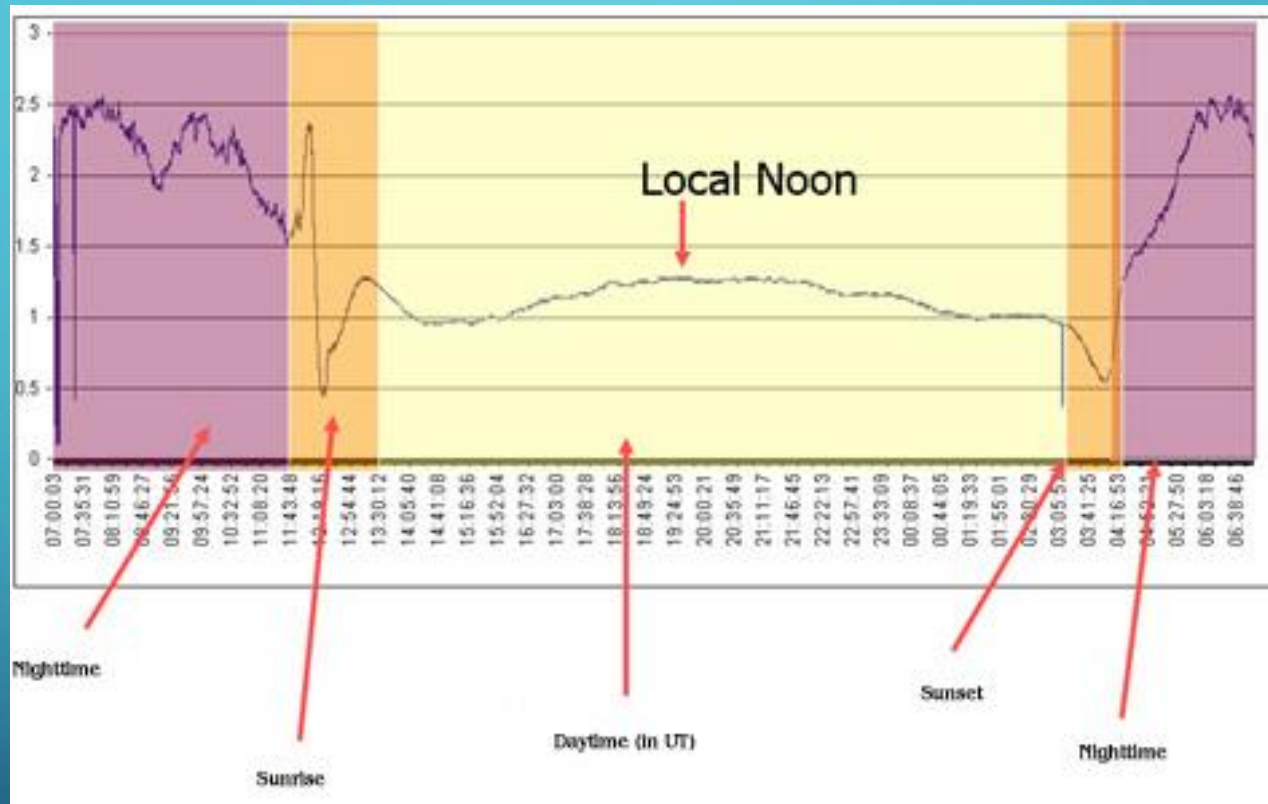


Image courtesy: solar-center.stanford.edu

SAMPLE SOLAR FLARE DATA

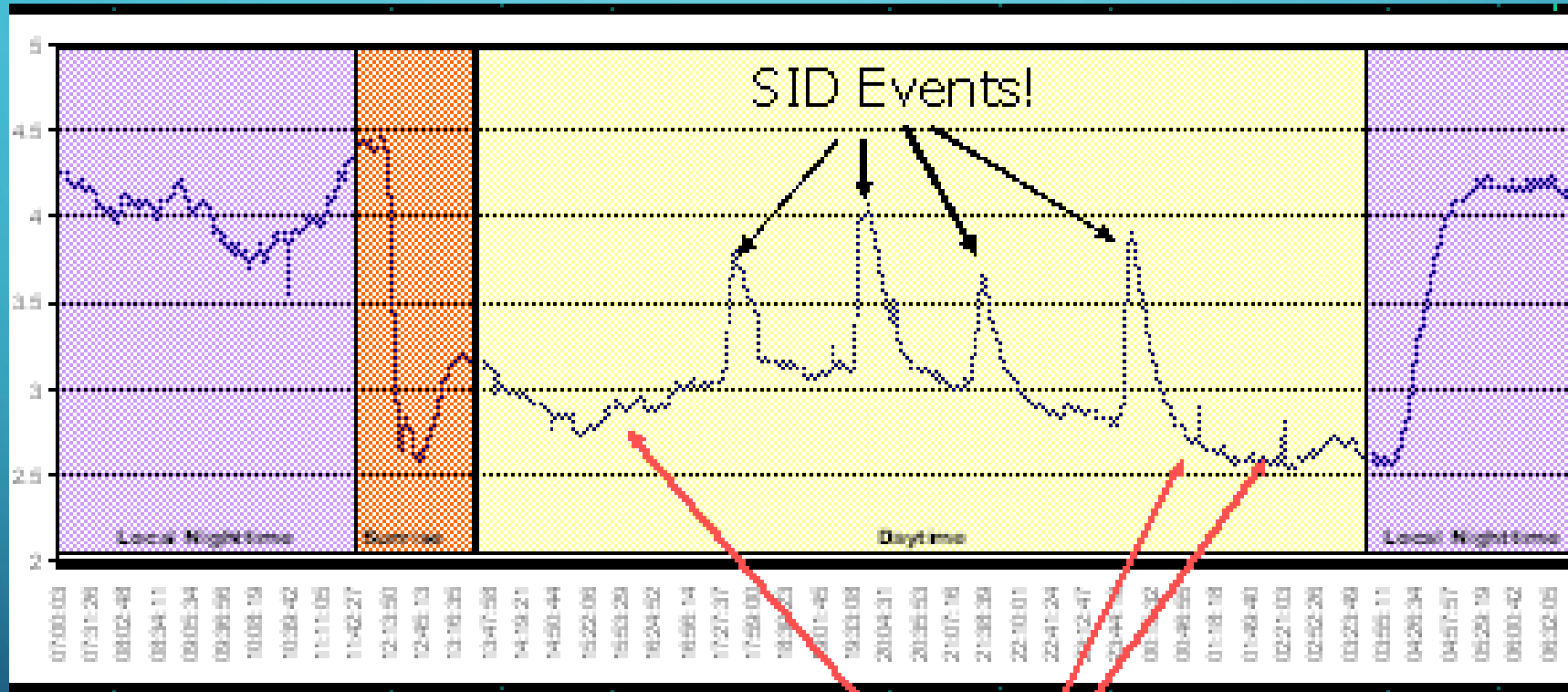
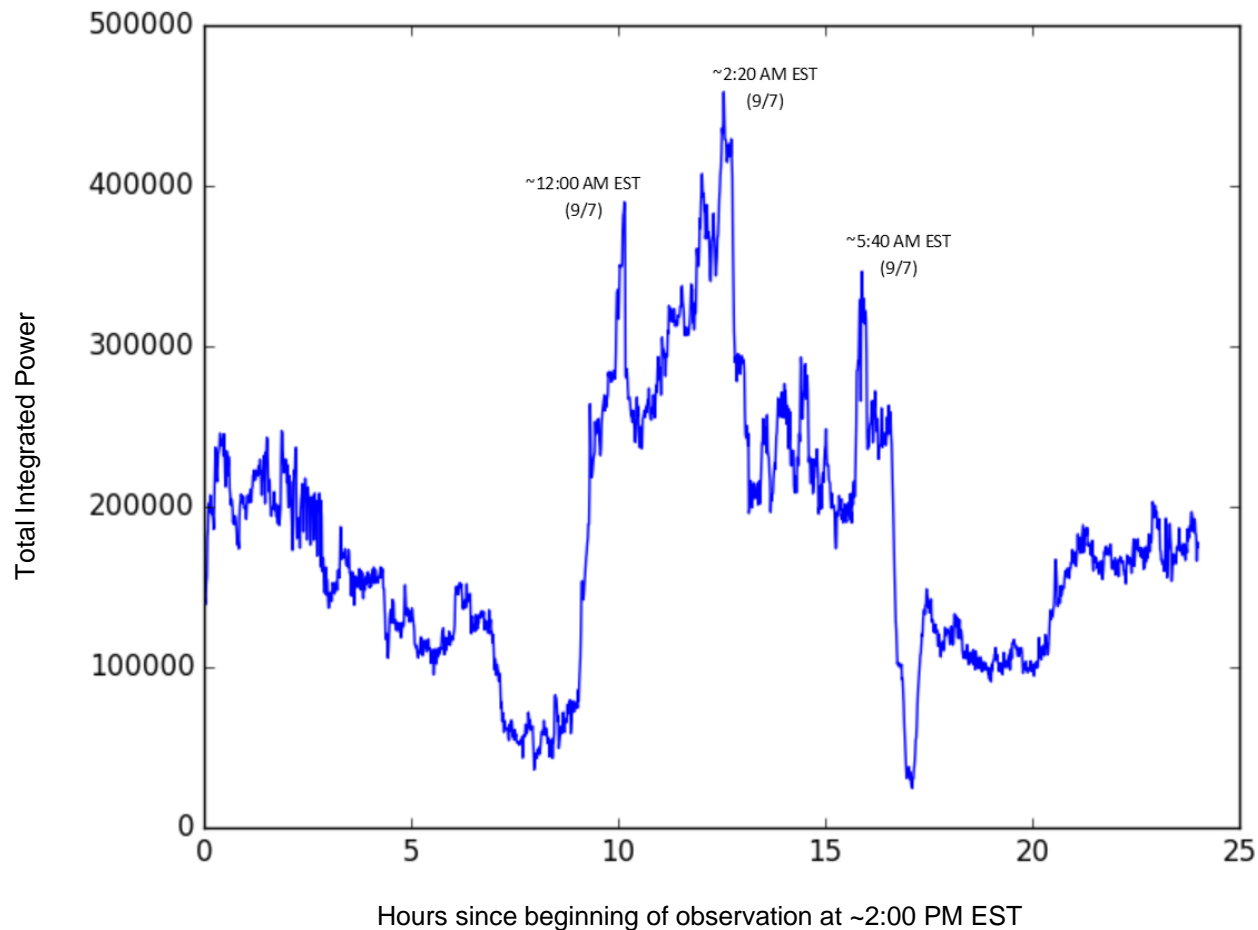


Image courtesy: <http://solar-center.stanford.edu>

*Note: SID = Sudden Ionospheric Disturbance = Solar Flares!

POSSIBLE SOLAR FLARE DATA TAKEN IN WV



- This data was taken on September 7, 2017, during a time of reported high solar activity.
- The three labelled peaks may be records of solar flares.
- The dips in intensity are likely due to known effects caused by sunrise and sunset.

EXAMPLE OF INTERFERENCE

