

# ***Black Holes***

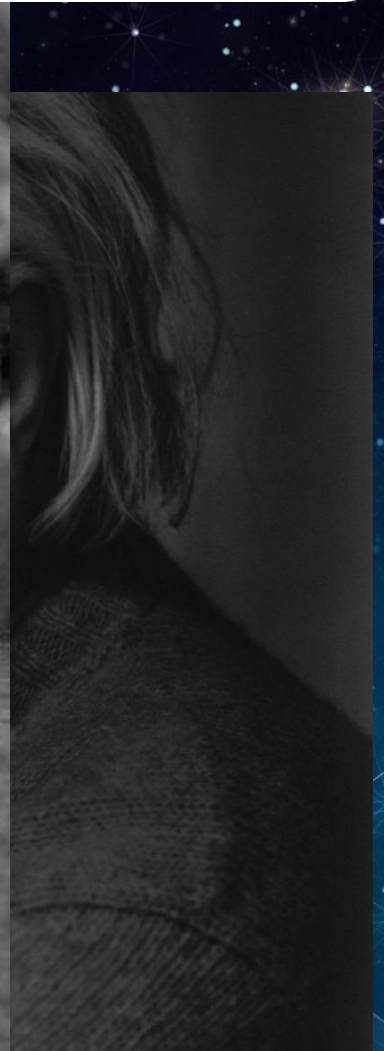
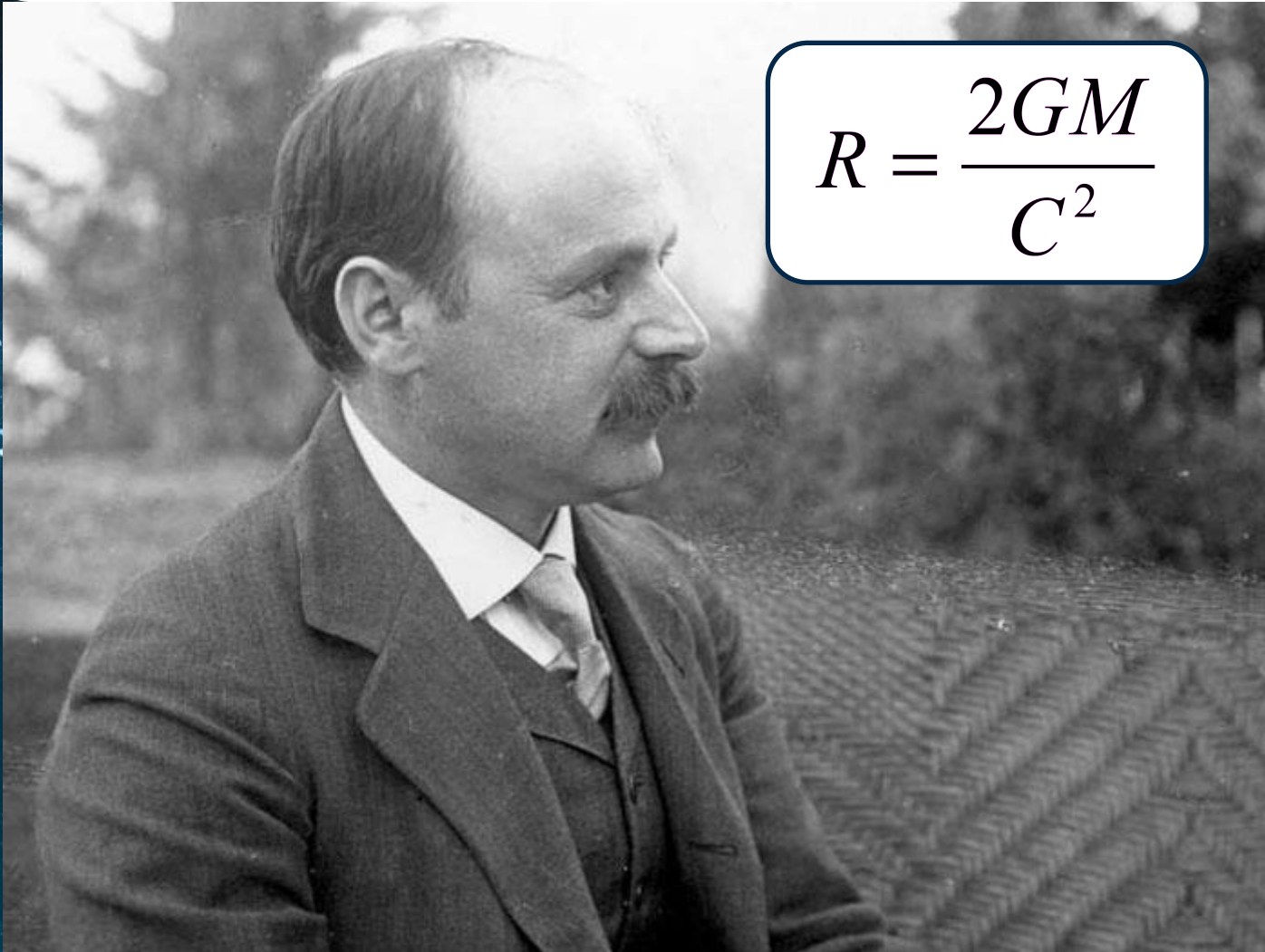
The discovery of black holes has become one of the major achievements in the field of astrophysics

A photon is an elementary particle



Karl Schwarzschild continued the study of black holes

$$R = \frac{2GM}{c^2}$$



# A black hole is a region of space-time

## Event Horizon

Outside of the Event Horizon, escape velocity is less than light speed.

On the Event Horizon, escape velocity is equal to the speed of light.

Inside the Event Horizon, escape velocity is greater than the speed of light.

## Singularity

The center of a Black Hole, also known as a Singularity, is the central point within the Event Horizon.

## Schwarzschild Radius

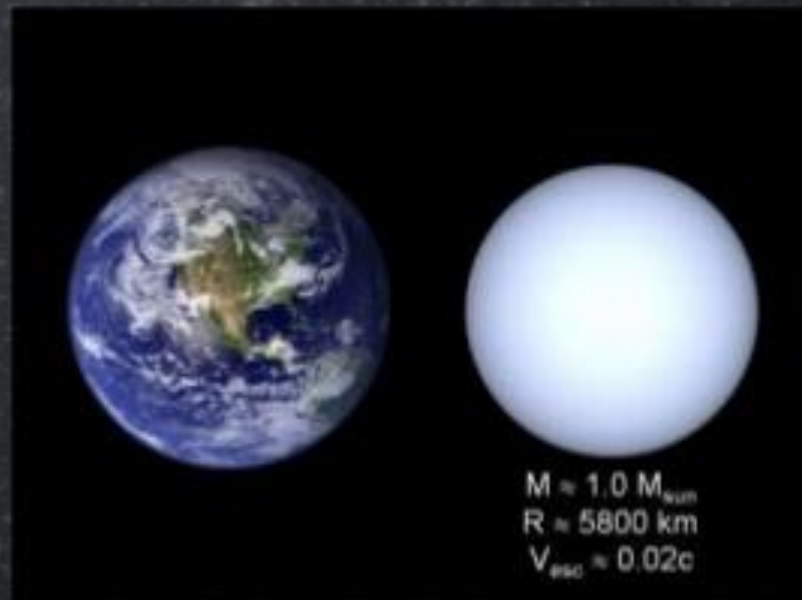
The Schwarzschild Radius is the distance from a Black Hole such that the escape velocity from the hole equals the speed of light.



# White Dwarf

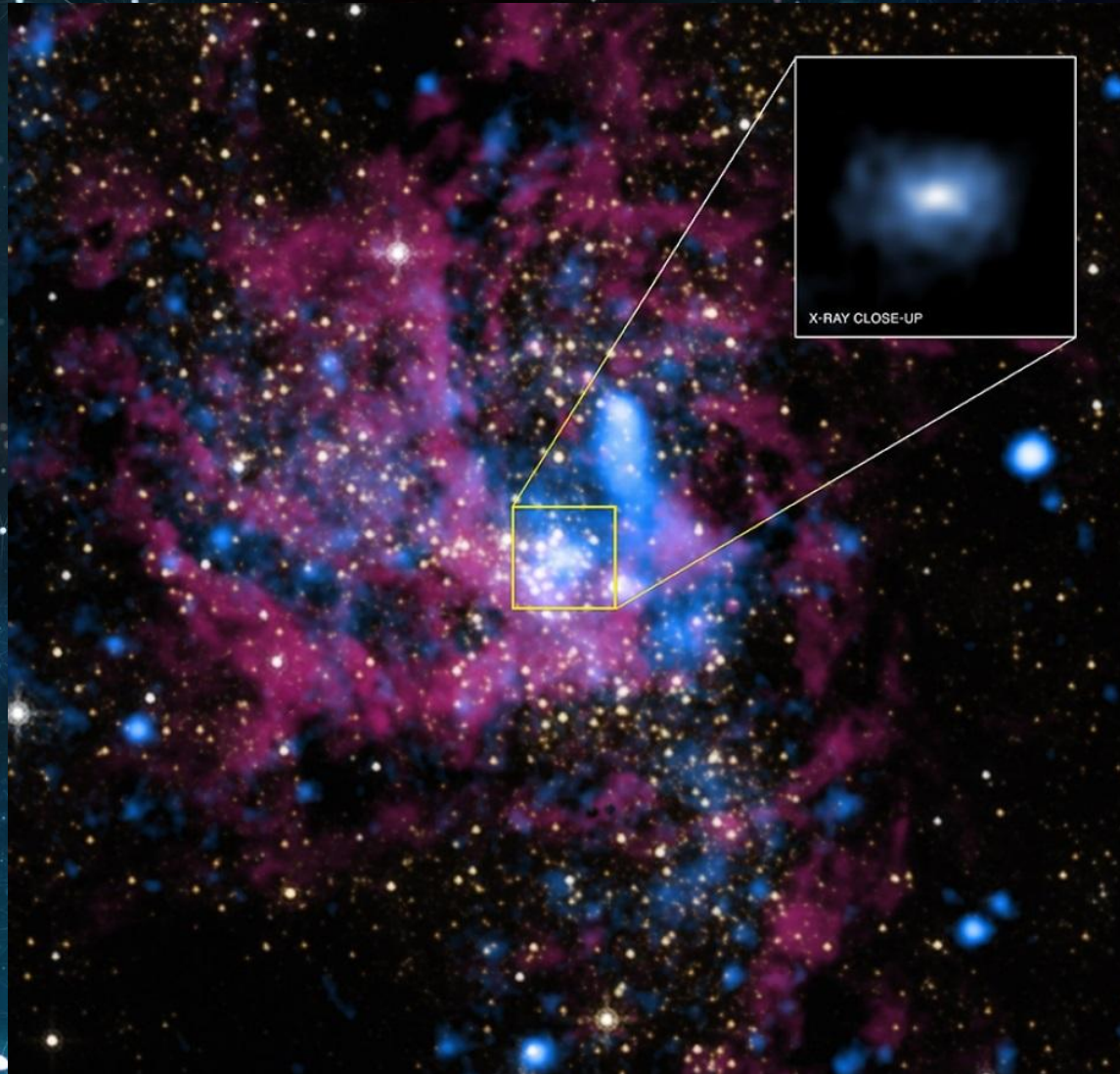
- What is a white dwarf?

Is a stella remnant composed mostly of electron-degenerate matter. They are very dense; a white dwarf's mass is comparable to that of the Sun, and its volume is comparable to that of the Earth.





# Our Milky Way likely has a black hole...



**Black holes are the ultimate energy factories.**





We are similar





Why is the study of black holes so important to mankind?



Thank you for attention!!!