Introduction

Have you ever touched the oven when it's hot? Did you feel like you were dying? Well the sun is much hotter than anything on our planet.

During our presentation about the Parker Solar Probe and its mission to the sun we will explain everything about this project like what is the Parker Solar Probe? Why is it important? What discovery did the Parker Solar Probe discover? And how is it possible?

Have you ever heard of someone going to the sun? People have always wondered about our sun and if it is possible for anything or anyone to get close to it.

In 2018, The Parker Solar Probe was launched to explore the mysteries of the Sun by traveling closer to it than any spacecraft before. It was the first successful achievement to discover the sun.

- What is the Parker Solar Probe?
 The Parker Solar Probe is a human-made object that was made to explore and touch the sun.
- The Parker Solar Probe project has been going on for more than 6 decades and after a lot of hard work the Parker Solar Probe was finally launched and after 3 whole years it finally landed.

- The Sun doesn't have a solid surface. Unlike the earth, the sun has a superheated atmosphere, made of solar material bound to the Sun by gravity and magnetic forces.
- The sun is a giant ball of hot plasma that's held together by its own gravity.
- Solar material flows out from the surface but around the sun, it's bound by the sun's gravity and magnetic field, This material forms the sun's atmosphere- the corona.
- The boundary that marks the edge of the sun's atmosphere is known as the Alfven Critical Surface.
- No one has ever known where this boundary was located but for the first time in history a spacecraft has crossed that boundary and it has entered the corona and the spacecraft is called the Parker Solar Probe.
- The Corona is around 300 times hotter than the photosphere.
- There is a constant stream of particles flowing from the sun known as the solar wind, it accelerates up to millions of miles per hour out of the Corona and we don't know how.
- Solar wind can disrupt our satellites and technology. Going to where the solar wind starts in the corona has always been a key goal for NASA.

The first Proposal of sending a spacecraft to the sun was in 1958.
 Our technology wasn't advanced enough to withstand the journey until the 2000s.

Why Won't Parker Solar Probe Melt?

Parker Solar Probe has been designed to withstand the extreme conditions and temperature fluctuations for the mission. The key lies in its custom heat shield and an autonomous system that helps protect the mission from the Sun's intense light emission

Reason # 1

The Parker Solar Probe is equipped with a white shield that reflects heat off the front and keeps the back side cool.

The heat shield is made up of a couple different materials and one of them is carbon

Reason # 2

It's smart/ prepared

It has an autonomy software that will keep its instruments safe and cool behind the heat shield.

Reason #3

The cooling system

The Parker Solar Probe circulates water to keep the solar cells from overheating. It stays cool and keeps power.

Reason #4

Heat is not temperature

The Parker Solar Probe is visiting the sun's outer layer, the corona. Like all stars, the sun is made of plasma. How tightly packed that plasma is depends on the layer. While the sun's corona has a very high temperature, the plasma particles are fairly spread out, so even though the temperature in the corona is

2-to 3- Million degrees Fahrenheit. The heat around the spacecraft is tolerable.

https://www.nasa.gov/feature/goddard/2018/traveling -to-the-sun-why-won-t-parker-solar-probe-melt

https://www.youtube.com/watch?app=desktop&v=X BudjihQKsw&feature=youtu.be

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