



ETCES ASSIGNMENT-2

Technical Report, Prezi Presentation and Poster Presentation



**NAME: SUBHAPREET PATRO
ROLL NO.: 2211CS010547
GROUP: 7A**

TECHNICAL REPORT

EXPLORING THE KARDASHEV SCALE: A JOURNEY THROUGH CIVILIZATIONS

Abstract:

The Kardashev Scale, created by Nikolai Kardashev in 1964, helps us understand how advanced civilizations might be based on their energy use. This report looks at what the scale means, one how it could affect humanity's future, and some issues people have with it.

Introduction:

The Kardashev Scale is like a map for thinking about how civilizations grow and change over time. It was made by Nikolai Kardashev to help us imagine what advanced civilizations might look like and where we might fit in.

The three Types of Civilizations:

Type I Civilization:- These are civilizations that use all the energy available on their home planet in smart ways. They have figured out how to use things like sunlight and wind power to make their lives better without hurting the planet.

Type II Civilizations:- Type II civilizations are more advanced than Type I civilizations. They can use the energy from their host star, not just their planet. They might build big structures around their star (like Dyson spheres) to collect its energy.

Type III Civilizations:- The most advanced文明 civilizations are Type III. They can use all the energy from their host galaxy. They might do things like travel between galaxies or control things like black holes.

Implications and Significance:-

The Kardashev scale makes us think about big questions, like what our future might look like and if there are other advanced civilizations out there. It helps us think about how we use energy and how we might explore space one day.

Criticisms and Limitations:-

Some people think the Kardashev scale is too simple. It doesn't think about other important things like culture and society. Also, it assumes civilizations always get more advanced in a straight line, which might not be true.

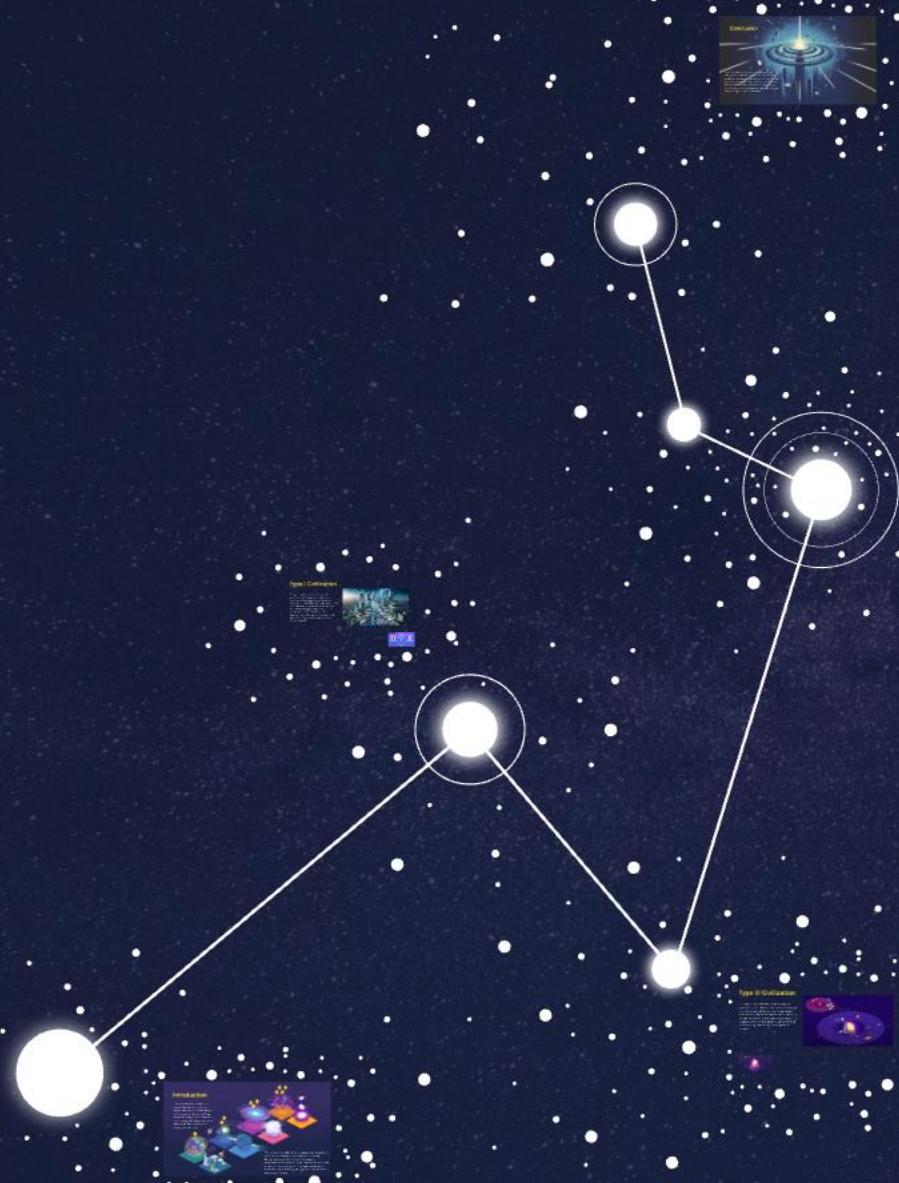
Conclusion:-

Even though the Kardashev scale has its flaws, it's still a useful way to think about the future and our place in the universe. It helps us dream big and ask questions about what's out there beyond our planet.

References:-

- 1) Kardashev, N. S (1964). Transmission of information by extra-terrestrial civilizations, Soviet Astronomy , 8(2), 217-220
- 2) Sagan, C. (1973). The quest for extraterrestrial . Sky & Telescope, 46, 6-8.
- 3) Kaku, M. (2011). Physics of the future: How science will shape human destiny and our daily lives by the year 2100. *Ankles*
- 4) https://en.wikipedia.org/wiki/Kardashev_scale

PREZI PRESENTATION



Kardashev's Scale

Measuring Technological Advancement

Name: Subhapreet Patro
Roll No.: 2211CS010547
Group: 7A

Introduction

The Kardashev scale is a classification system for hypothetical extraterrestrial civilizations. It's a method of measuring a civilization's technological advancement based on the amount of energy it can use.



The scale includes three categories based on how much energy a civilization is using. Soviet astronomer Nikolai Kardashev proposed the scale in 1964. Based on current levels of development, it is estimated that humanity is currently at Type 0.7276 on the Kardashev Scale.

Type I Civilization

A Type I civilization, also called a planetary civilization, can use and store all of the energy available on its planet. This includes the energy that reaches the planet from its star (like solar energy), the energy produced inside the planet (like geothermal and nuclear energy), and any other forms of energy present on the planet.



Type II Civilization

Ring World

Black Hole Bomb

Stellar Engine



A Type II civilization, also known as a stellar civilization, can harness the total energy of its planet's parent star. The most popular hypothetical concept for this is a Dyson Sphere. This is a massive artificial structure that could encompass a star and capture a large percentage of its power output.



Type III Civilization

A Type III civilization, also called a galactic civilization, can control energy on the scale of its entire host galaxy. For a civilization to reach this status, it must be able to harness the energy output of a whole galaxy, utilizing and controlling resources on a galactic scale.



Beyond the Kardashev Scale

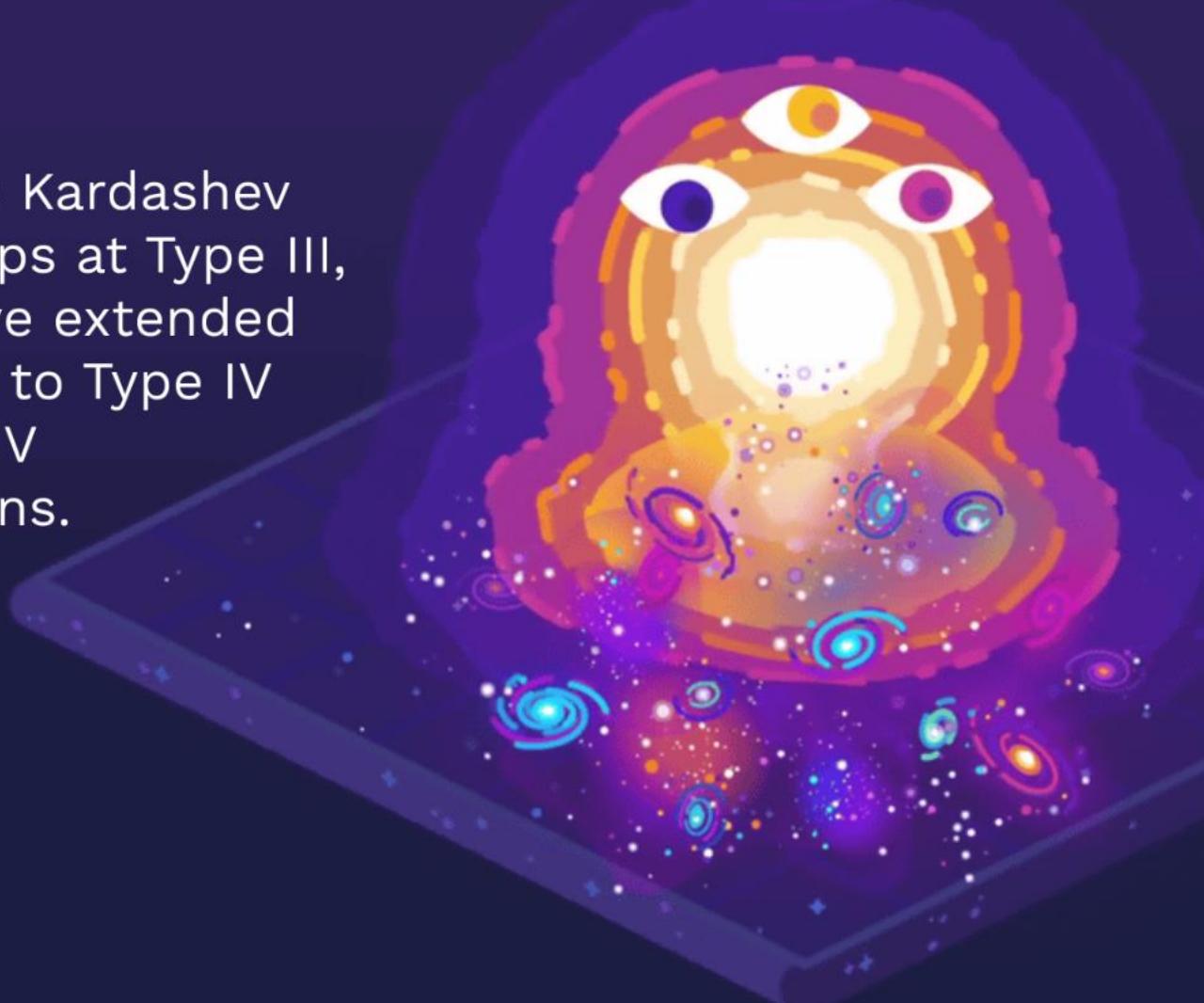
While the Kardashev Scale stops at Type III, some have extended the scale to Type IV and Type V civilizations.



A Type IV civilization would have access to the energy content of the entire universe and a Type V would be a civilization beyond our current understanding of physics, essentially a god-like entity.

Beyond the Kardashev Scale

While the Kardashev Scale stops at Type III, some have extended the scale to Type IV and Type V civilizations.



A Type IV civilization would have access to the energy content of the entire universe and a Type V would be a civilization beyond our current understanding of physics, essentially a god-like entity.

Conclusion

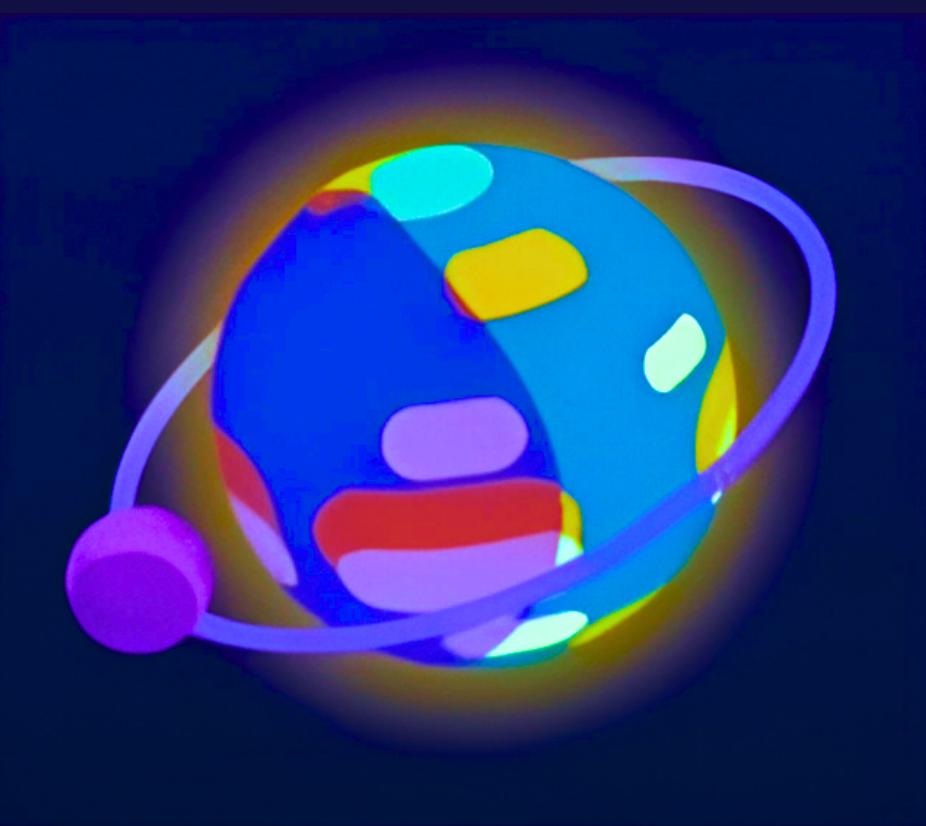


The Kardashev Scale is a fascinating thought experiment that allows us to explore the potential future of humanity and our place in the cosmos. While we are currently far from even a Type I civilization, it provides a roadmap for our technological advancement.

POSTER PRESENTATION

KARDASHEV SCALE

MEASURING TECHNOLOGICAL ADVANCEMENT



PLANETARY CIVILIZATION

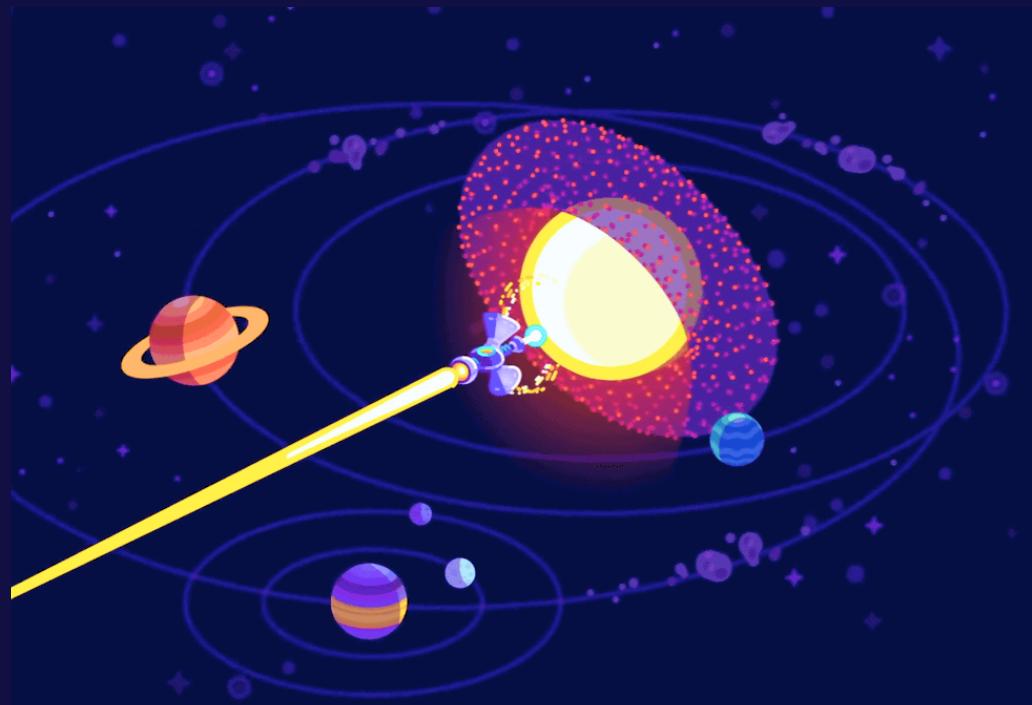
A Type 1 civilization is able to harness all of their planet's energy from the parent star. This type has control over the entire planet's natural forces.

TYPE-1

STELLAR CIVILIZATION

TYPE-2

A Type 2 civilization can harness all energy from their host star with a Dyson sphere, enabling interplanetary expansion within their solar system.



GALACTIC CIVILIZATION

TYPE-3

A Type 3 civilization harnesses the energy of its entire galaxy, enabling galactic travel and colonization of multiple star systems.