POTENTIALLY HABITABLE EXOPLANETS (KEPLER-296 e) and (TOI-715 b)

- **Kepler 296 e**

  Kepler-296 e is a super Earth exoplanet that orbits an M-type star. Its mass is 2.96 Earths, it takes 34.1 days to complete one orbit of its star, and is 0.169 AU from its star. Its discovery was announced in 2014. It is potentially habitable.

  - **Characteristics:**
    - ESI:- 0.913038
    - Planet type -: Super Earth
    - Equilibrium Temperature:- 267K
    - Location:- Kepler 296 system, Constellation of Lyra
    - Surface type:- Rocky
    - Orbital Period:- 34.14234 days
  - **Challenges:-**
    - Reaching the planet is not possible with our current level of space exploration technology.
    - No information about the atmosphere of the exoplanet and its composition.
    - Rapid orbital periods can cause extreme weather conditions.
  - **Potential strategies:-**
    - For space exploration we need to develop technologies like warp drive that can help us reach speeds greater than speed of light.
    - Usage of different technologies like starshade to gain insight about the nature of the planet's atmosphere.
  - **Conclusion:-**

    Kepler-296 e is a good candidate for a habitable planet . It’s possible for us to colonise in the far future. But for that we need to overcome some challenges.

- # TOI-715 b

  TOI-715 b is a super Earth exoplanet that orbits an M-type star. Its mass is 3.02 Earths, it takes 19.3 days to complete one orbit of its star, and is 0.083 AU from its star. Its discovery was announced in 2023. It is potentially habitable.

  - ## Characteristics:
    - ESI:- 0.842766
    - Planet type -: Super Earth
    - Equilibrium Temperature:- 234K
    - Location:- TOI 715 system, 137 light years away
    - Surface type:- Potentially rocky
    - Orbital Period:- 19.3 days
  - ## Challenges:-
    - Reaching the planet is not possible with our current level of space exploration technology.
    - No information about the atmosphere of the exoplanet and its composition.
    - Too cold for human survival.
    - Rapid orbital periods can cause extreme weather conditions.
  - ## Potential strategies:-
    - For space exploration we need to develop technologies like warp drive that can help us reach speeds greater than speed of light.
    - Usage of different technologies like starshade to gain insight about the nature of the planet's atmosphere.
    - Need to make shelters that can provide shelter in extremely cold conditions.
  - ## Conclusion:-

    TOI-715 b is a good candidate for a habitable planet . It’s possible for us to colonise in the far future. But for that we need to overcome some challenges.