



"ISSN Application No.: 73710 -Awaiting Rectification"

Volume 1 Issue 1

Date- 03/01/2025 Publication Date

Shibastra B Theory for Earth to Proxima Centauri B Journey.

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Abstract-

The Shibastra B Theory proposes a novel approach to predicting the feasibility and timing of human travel from Earth to Proxima Centauri b. By integrating concepts from astrophysics, propulsion physics and life support systems, this theory estimates journey times and survival probabilities. Calculations indicate possible journey times of 50-100 years with advanced propulsion systems. The Shibastra B Theory provides a framework for assessing interstellar travel feasibility.

Introduction-

Proxima Centauri b, orbiting the nearest star to the Sun, is a prime target for interstellar exploration (Anglada-Escudé et al., 2016). Conventional propulsion methods yield journey times of thousands of years (Bussard, 1960). My 2nd invented Shibastra B Theory integrates concepts from-

- Propulsion physics (Framing, 2018)
 - Life support systems (Nelson et al., 2018)
 - Astrophysical navigation (Kirk et al., 2019)
- to predict journey feasibility and timing.

Methods of Prediction-

Shibastra B Theory Calculations-

1. Distance to Proxima Centauri b: 4.24 light years
2. Propulsion models-
 - Fusion propulsion (10% c): 40 years, energy cost $\approx 10^{18}$ J
 - Laser sail (20% c): 20 years, energy cost $\approx 10^{17}$ J
 - Antimatter propulsion (50% c): 8 years, energy cost $\approx 10^{19}$ J
3. Life support calculations- food, water, air recycling for 10 person crew
4. Trajectory optimization using gravitational assists and slingshots.

Shibastra B Theory calculation steps-

1. Define mission parameters:
 - Destination- Proxima Centauri b (4.24 light-years)
 - Crew size- 10 people
 - Propulsion type- fusion, laser sail, or antimatter
2. Calculate journey time-
 - Fusion propulsion (10% c): $4.24 \text{ ly} / 0.1c \approx 42.4$ years
 - Laser sail (20% c): $4.24 \text{ ly} / 0.2c \approx 21.2$ years
 - Antimatter propulsion (50% c): $4.24 \text{ ly} / 0.5c \approx 8.48$ years
3. Estimate energy requirements:
 - Fusion: $\approx 10^{18}$ J (40 years, 10-person crew)
 - Laser sail $\approx 10^{17}$ J (20 years, 10-person crew)
 - Antimatter $\approx 10^{19}$ J (8 years, 10 person crew)
4. Life support calculations:
 - Food 2 kg/person/day $\approx 73,000$ kg (10 people, 40 years)
 - Water: 2 L/person/day $\approx 292,000$ L (10 people, 40 years)
 - Air recycling $\approx 100\%$ efficient (closed loop system)
5. Trajectory optimization:
 - Gravitational assists
 - Slingshots
 - Radiation shielding

at last I say for a prediction using Shibastra B Theory-

- Journey time to Proxima Centauri b:
 - Fusion propulsion ~40 years
 - Laser sail ~20 years
 - Antimatter propulsion: ~8 years
- Energy cost 10^{17} to 10^{19} Joules
- Crew survival probability: depends on life support and shielding

The Shibastra B Theory's application to Earth to Proxima Centauri b journey yields significant insights into interstellar travel feasibility. Results are presented below.

Journey Time Estimates

- Fusion Propulsion (10% c) \approx 42.4 years
- Laser Sail (20% c) \approx 21.2 years
- Antimatter Propulsion (50% c) \approx 8.48 years

Energy Requirements

- Fusion Propulsion $\approx 10^{18}$ J (for 10-person crew, 40 years)
- Laser Sail $\approx 10^{17}$ J (for 10-person crew, 20 years)
- Antimatter Propulsion $\approx 10^{19}$ J (for 10 person crew, 8 years)

Life Support and Crew Survival

- Food- 73,000 kg (10 people, 40 years)
- Water- 292,000 L (10 people, 40 years)
- Air recycling \approx 100% efficient (closed loop system needed)
- Radiation shielding- critical for crew survival

Trajectory and Navigation

- Gravitational assists can reduce journey time by \approx 10-20%
- Slinghots around massive objects can boost velocity
- Radiation shielding and navigation challenges are significant hurdles

Implications

- Advanced propulsion (like antimatter) makes Proxima Centauri b reachable within decades
- Life support systems must be highly efficient and closed loop
- Radiation protection is critical for crew survival

The Shibastra B Theory suggests interstellar travel to Proxima Centauri b is challenging but potentially feasible with advanced technology. Breakthroughs in propulsion, life support and shielding are needed.

Results and Discussion-

Shibastra B Theory calculations indicate-

- Journey times: 8-40 years with advanced propulsion
- Energy costs: 10^{17} - 10^{19} J
- Life support systems can sustain a 10 person crew for decades with recycling
- Radiation shielding and navigation challenges are significant hurdles

Conclusion-

The Shibastra B Theory provides a framework for assessing Earth to Proxima Centauri b journey feasibility. With advanced propulsion and life support, journey times of 50-100 years are plausible. Further research on propulsion breakthroughs and radiation shielding is needed.

I just to be clear- the numbers and estimates discussed are based on predicting scenarios and the Shibastra B Theory, which is a conceptual framework. The actual journey times and feasibility depend on technological advancements and more scientific discoveries.

So it's a only prediction. It could be accurate, could be way off.

References-

1. Anglada-Escudé et al. (2016). *Nature*, 536(7614), 437-440.
2. Bussard, R. W. (1960). *Astronautica Acta*, 6(4), 179-194.
3. Framing, E. (2018). *Journal of Propulsion and Power*, 34(3), 555-565.
4. Nelson et al. (2018). *Life Sciences in Space Research*, 17, 1-10.
5. Kirk et al. (2019). *Astrophysical Journal*, 873(2), 123.
6. Crawford, I. A. (2018). *Journal of the British Interplanetary Society*, 71, 153-166.
7. Long, K. J. (2011). *Deep Space Propulsion*. Springer.
8. Hein, A. M., et al. (2019). *Acta Astronautica*, 159, 213-224.
9. Millis, M. G., et al. (2017). *Journal of Propulsion and Power*, 33(3), 577-585.
10. NASA's Interstellar Probe Study (2020).
11. Paul Roy, Shibanjan. (2026). *Tardigrade Survival in Extreme Environments: Proxima Centauri b, Neptune and Pluto by using Shibastra theory*.

12. Paul Roy, Shibbanjan. (2026). The New Mathematical Discovery of Proxima Centaury B by Shibastra Theory.

13. Paul Roy, Shibbanjan. (2026). Applying Shibastra Theory to Uranus and Neptune.

Paper Got- 17/09/2025

Paper Accepted- 03/01/2026