

embody Newton's and Kepler's Laws⁸. The model is arbitrary in many ways, and any "real" physicist or astronomer would argue that the probability of any one orbital model being right is infinitesimally small. So, perhaps it would be proper from here on to assume that I am creating a work of *science fiction* based on reasonable research. I ran many experiments in the course of writing this paper. Three cases are reported in this paper: In Case 1 a Saturn class object makes a really close pass at Earth (1.5 x Earth-Moon distance). In Case 2 a brown dwarf⁹ of 8.5 times the mass of Jupiter makes a close pass with a perigee of 0.031 AU. In Case 3 a Saturn sized gas giant makes a pass with a larger perigee of 0.01 AU or about 4 times the Earth-Moon distance. I then surrounded the primary with shells or rings of dust and larger debris, plus several large planets or moons. The details of developing the orbit are provided in Appendices 2 and 3. I then applied the mass of the Destroyer, and its distance and relative velocities to an Excel spreadsheet where I could exercise conservation of energy, Newton's law of universal gravitation, Newton's second law, and the inverse cube law of tides that arise from gravitational forces. Tidal effects were estimated for both the Earth and the Sun.

HYPOTHETICAL STRUCTURE OF THE DESTROYER SYSTEM AND ORBIT

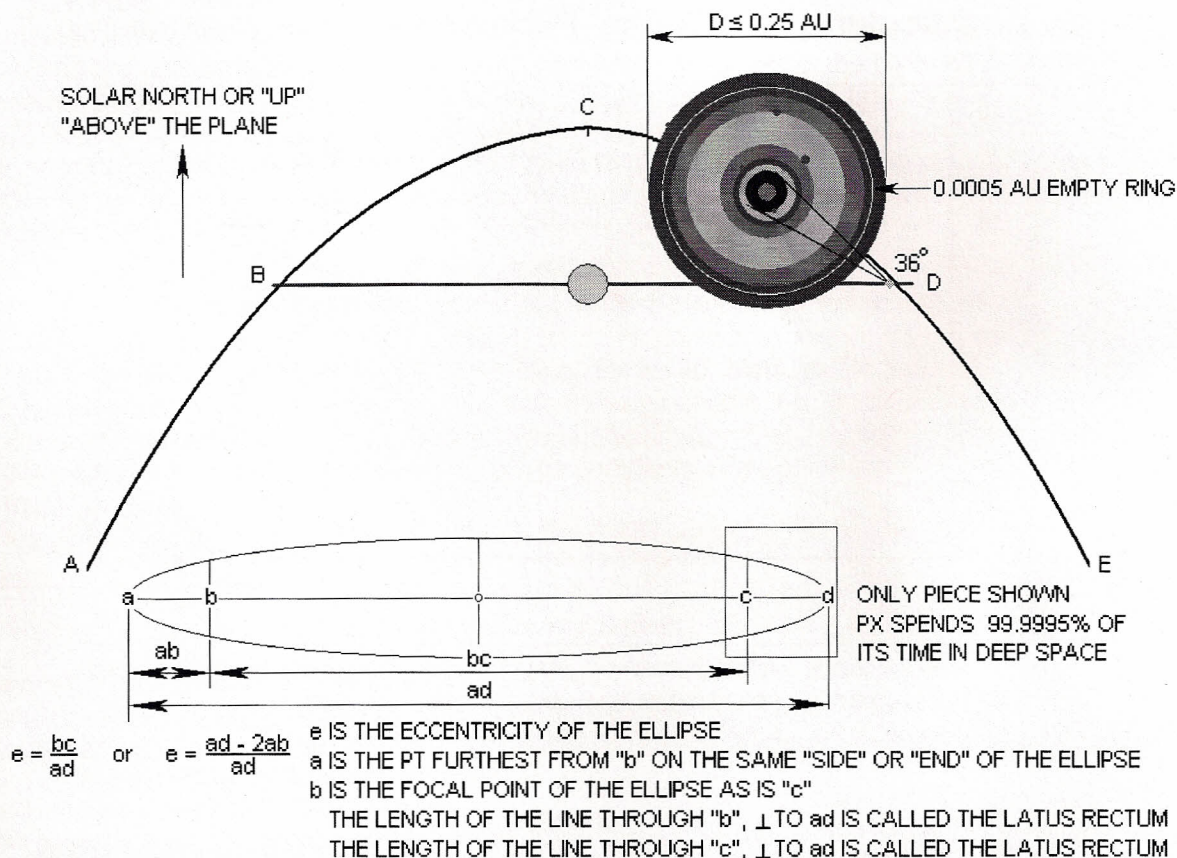


Figure 1

HYPOTHETICAL STRUCTURE OF THE DESTROYER SYSTEM AND ORBIT

⁸ See Appendix 3, Derivation of the Vision Orbit to determine how these parameters were developed.

⁹ See Appendix 6 which is extracted from Wikipedia, the online encyclopedia.