

CHAPTER 14: TURBULENCE

Version 2, goes with version 0214.2.pdf of chapter 14

Reading:

Chapter 14 of Blandford and Thorne.

Problems

A. Do:

1. Exercise 14.1 part (ii): Spreading of a Laminar Wake Behind a Sphere, AND Exercise 14.4 part (ii): Turbulent Wake Behind a Sphere [Note: Kip will do parts (i), the wakes behind a cylinder, in class on Monday]; OR
2. Exercises 14.2: Spreading of a 2-Dimensional Laminar Jet, AND Exercise 14.5 part (i): Spreading of a 2-Dimensional Turbulent jet. [Note: This is more interesting and challenging than option 1, but will require more work.]

B. Do: Exercise 14.3 Reynolds Stress and Weak Turbulence Theory

C. Do:

1. Exercise 14.7 Excitation of Earth's Normal Modes by Atmospheric Turbulence, OR
2. Exercise 14.8 Effect of Drag

D. Do:

1. Exercise 14.10 Feigenbaum Sequence, OR
2. Exercise 14.12 Strange Attractors