

Models of Weather and Climate

Summer Semester 2025, Exercise 3

Due Monday, June 30, 2025

1. Kaper & Engler, Exercise 2.8
2. Recall the derivation of the one-dimensional simplification of the 2-box model of the ocean in class. Show that the S-mode, where $s \geq 1$, has a surface flow from pole to equator (Box 1 to Box 2) and a bottom flow in the opposite direction. Likewise, the T-mode where $s < 1$, has a surface flow from equator to pole and a bottom flow in the opposite direction.
3. Kaper & Engler, Exercise 3.4
4. Kaper & Engler, Exercise 3.5