

## ❖ Example\_Densities.m → get graph of densities

- CompleteParameters.m → Adds missing default parameters
- CreateRootSystem.m → Create multiple taproots
  - letter.m → Creates a l-System letter
  - updatePos.m → Update poositions of relevant letters
- applyRules.m → Applies the production rules of an L-System strings
  - applyRule → Applies the production rule of a single L-System letter
    - ◆ getPosition → Copies parameters into a struct for better readability
    - ◆ growthFunction.m → determines root length at a given time
    - ◆ letter.m → Create a l-System letter
    - ◆ tropism.m → Get tropism
      - tropism2 → Constrain the tropism
        - ◆ tropismObjective.m → Returne tropism objective function for common tropisms
      - testAlphaBeta → returns coordinates moving in new directions
      - letter.m → Create a L-System letter
    - ◆ updatePos2 → Fast position update for single segment
  - getPosition → Copies parameters into a struct for better readability
  - updatePos2 → Fast position update for single segment
- getBounds.m → Returns the spatial bounds of a L-System string
  - getSegments.m → gets segments, radii, and other attributes of a root system
    - ◆ getTotal.m → Returns the total surface, volume or length of a root system
- getDensities → Creates an averaged map over an REV from an L-System string
  - getSegments.m → gets segments, radii, and other attributes of a root system
    - ◆ getTotal.m → Returns the total surface, volume or length of a root system