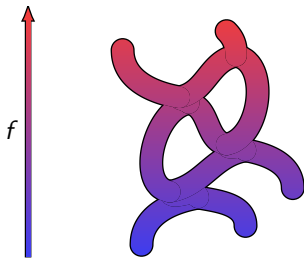


Sequential algorithm

Informal description

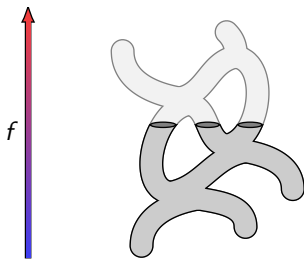
- Process the vertices of the mesh by **increasing** value of f .



Sequential algorithm

Informal description

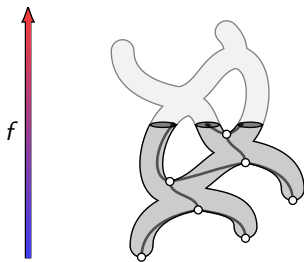
- ▶ Process the vertices of the mesh by **increasing** value of f .
- ▶ Construct the Reeb graph $\mathcal{R}(f)$ incrementally.



Sequential algorithm

Informal description

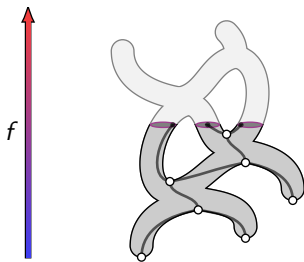
- ▶ Process the vertices of the mesh by **increasing** value of f .
- ▶ Construct the Reeb graph $\mathcal{R}(f)$ incrementally.
- ▶ While sweeping upwards, keep:
 - ▶ the **partial Reeb graph** constructed so far;



Sequential algorithm

Informal description

- ▶ Process the vertices of the mesh by **increasing** value of f .
- ▶ Construct the Reeb graph $\mathcal{R}(f)$ incrementally.
- ▶ While sweeping upwards, keep:
 - ▶ the **partial Reeb graph** constructed so far;
 - ▶ the current **level set** $f^{-1}(r)$.



Sequential algorithm

Informal description

- ▶ Process the vertices of the mesh by **increasing** value of f .
- ▶ Construct the Reeb graph $\mathcal{R}(f)$ incrementally.
- ▶ While sweeping upwards, keep:
 - ▶ the **partial Reeb graph** constructed so far;
 - ▶ the current **level set** $f^{-1}(r)$.
- ▶ When processing a vertex, **update** the level set and the Reeb graph accordingly.

