Point Location

Slab Method
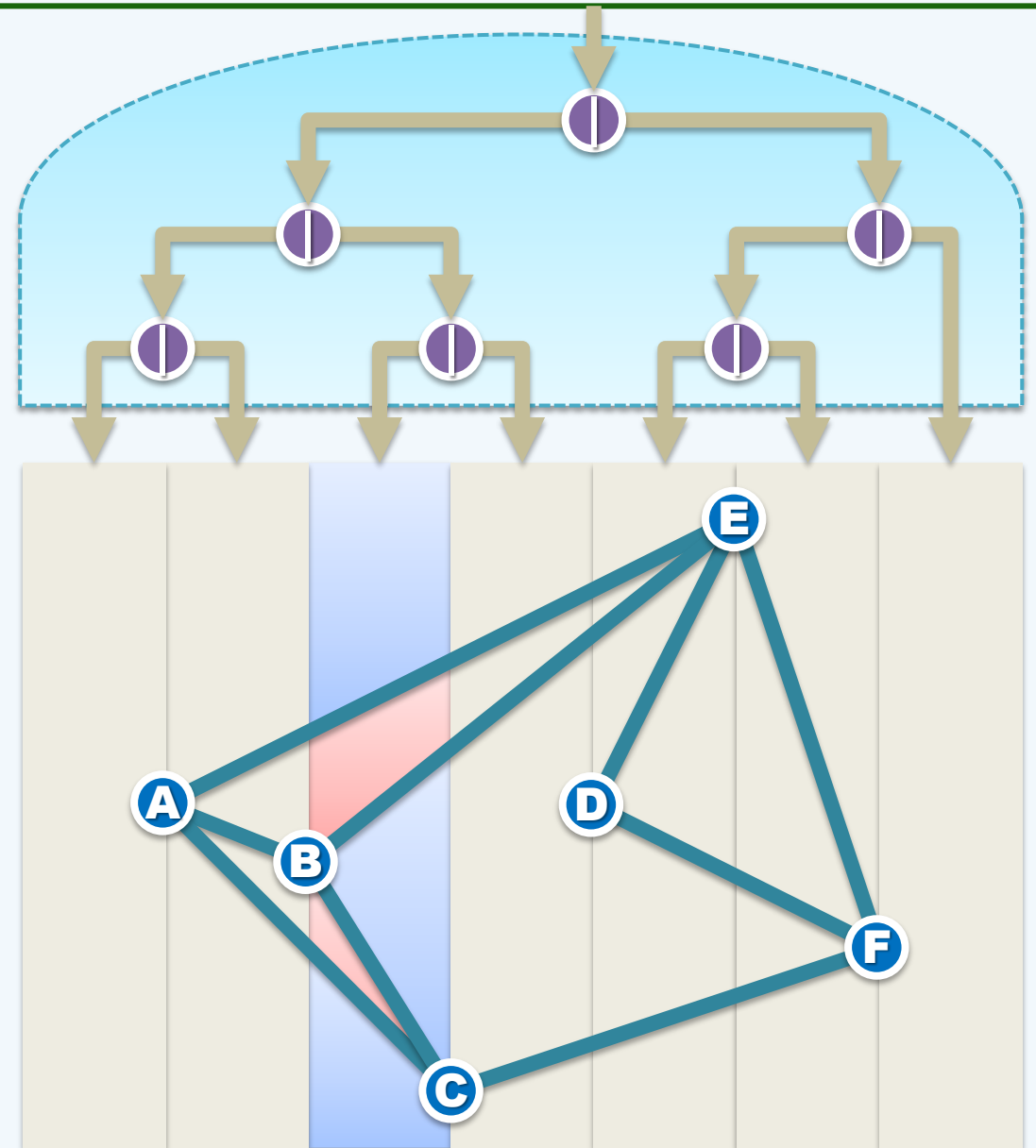
- Tree of Trees

Junhui DENG

deng@tsinghua.edu.cn

❖ A BBST is built for S, which

    stores all (vertical) slabs

    sorted by $\boxed{\text{x}}$-coordinates

❖ Since there are $\boxed{O(n)}$ slabs,

    the main tree has

    a height of $\boxed{O(\log n)}$
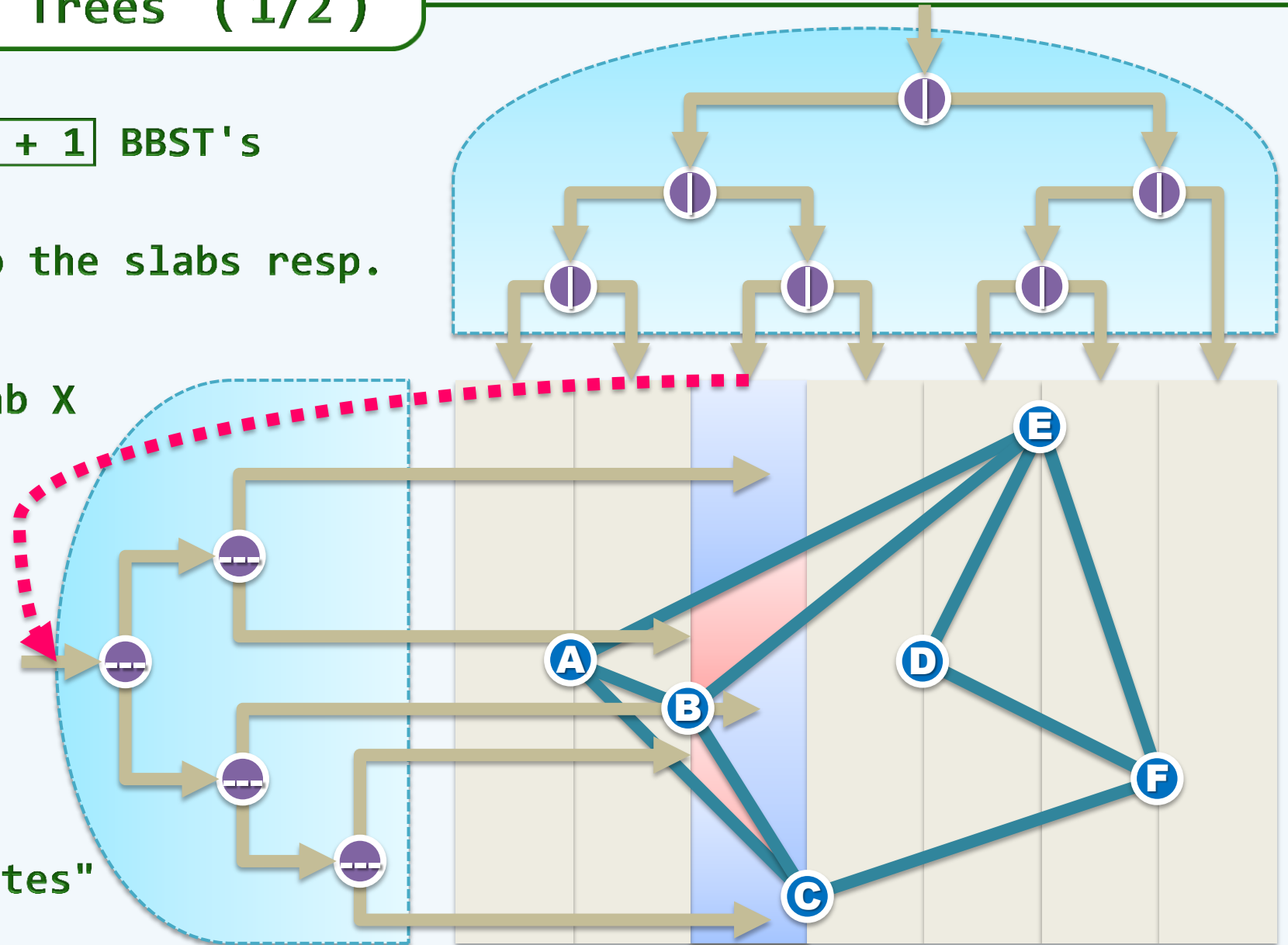
Associative Trees (1/2)

❖ We also build $\boxed{n+1}$ BBST's

   corresponding to the slabs resp.

❖ The BBST for slab X

   stores all

   edges in X

   sorted by

   "$\boxed{y}$-coordinates"

❖ There are $\mathcal{O}(n)$ trapezoids

within each slab

❖ So each assoc. tree

has a height

of $\mathcal{O}(\log n)$