

BST Application

kd-Tree: Canonical Subsets

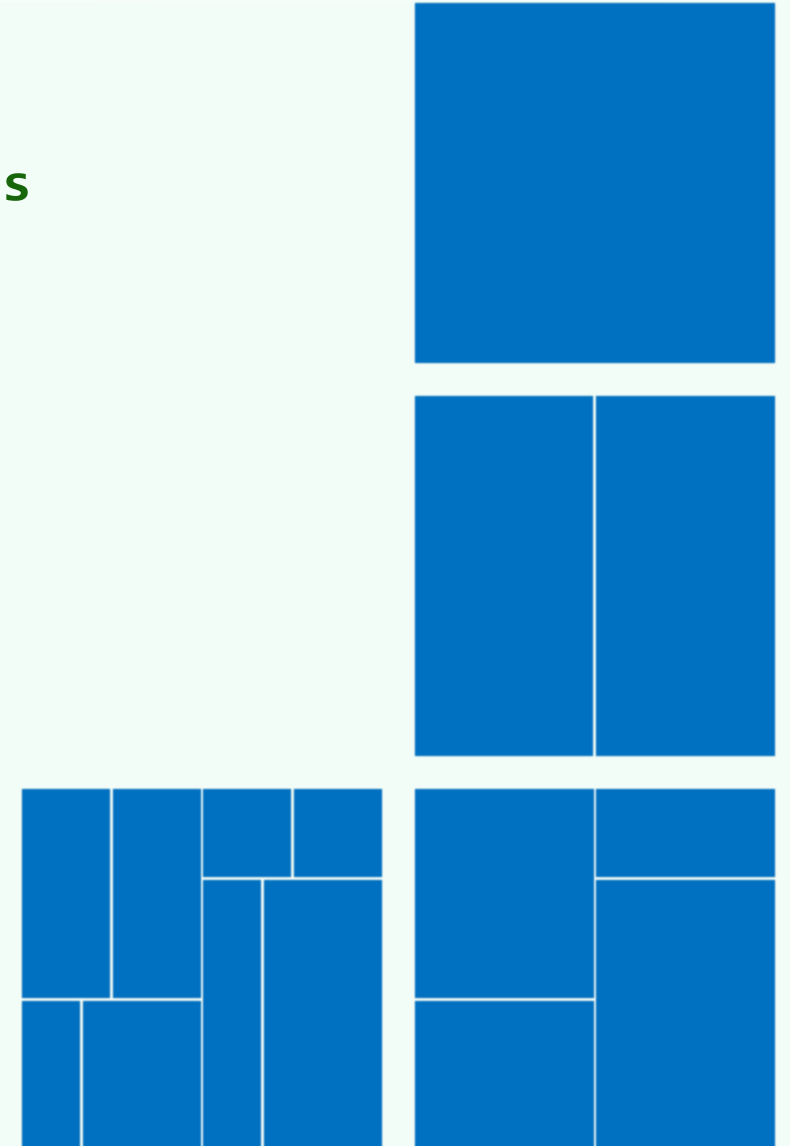
韦小宝跟著她走到桌边，只见桌上大白布上钉满了几千枚绣花针，几千块碎片已拼成一幅完整无缺的大地图，难得的是几千片碎皮拼在一起，既没多出一片，也没少了一片。

邓俊辉

deng@tsinghua.edu.cn

Canonical Subset

- ☞ Each node corresponds to
 - a rectangular **sub-region** of the plane, as well as
 - the **subset** of points contained in the sub-region
- ❖ Each of these subsets is called a **canonical subset**
- ☞ For each internal node X with children L and R,
$$\text{region}(X) = \text{region}(L) \cup \text{region}(R)$$
- ☞ Sub-regions of nodes at a same depth
 - never **intersect** with each other, and
 - their **union** covers the entire plane
- ❖ We will see soon that each 2D GRS can be answered by the **union** of a number of CS's



Example

