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Voronoi Diagram

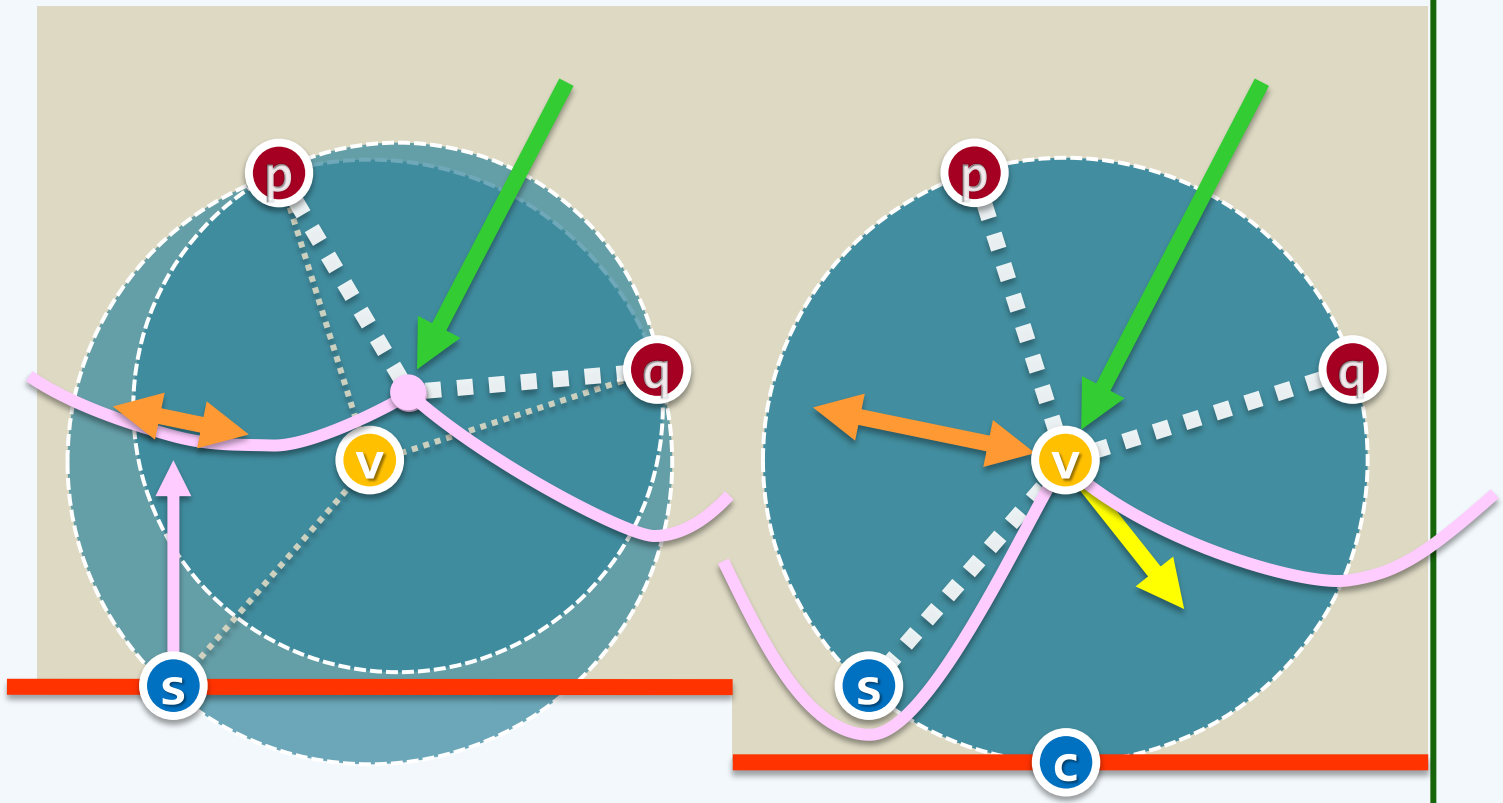
Plane Sweep

- Site Event: How

Junhui DENG

deng@tsinghua.edu.cn

1. determine arc(p) on the BL lying directly above s
2. split arc(p) into 2 by a new infinitesimally small arc
3. create a new
   dangling edge(s, p)
4. delete all circle events
   involving p and q
5. create new circle events
   for each of
   the new triples



Beach Line Size

❖ How many arcs could there be along the BL at a moment?

❖ In fact, we can prove that

- new arcs can be introduced into the BL only by site events; and
- each site event, except the first one, introduce 2 arcs:

  a new one created, and another old one split

❖ It follows immediately that

the number of arcs along the BL is never more than $2n - 1$,

where n is the number of sites lying above the sweepline