3SUM-hard problems
[Gajentaan & Overmars 1995]

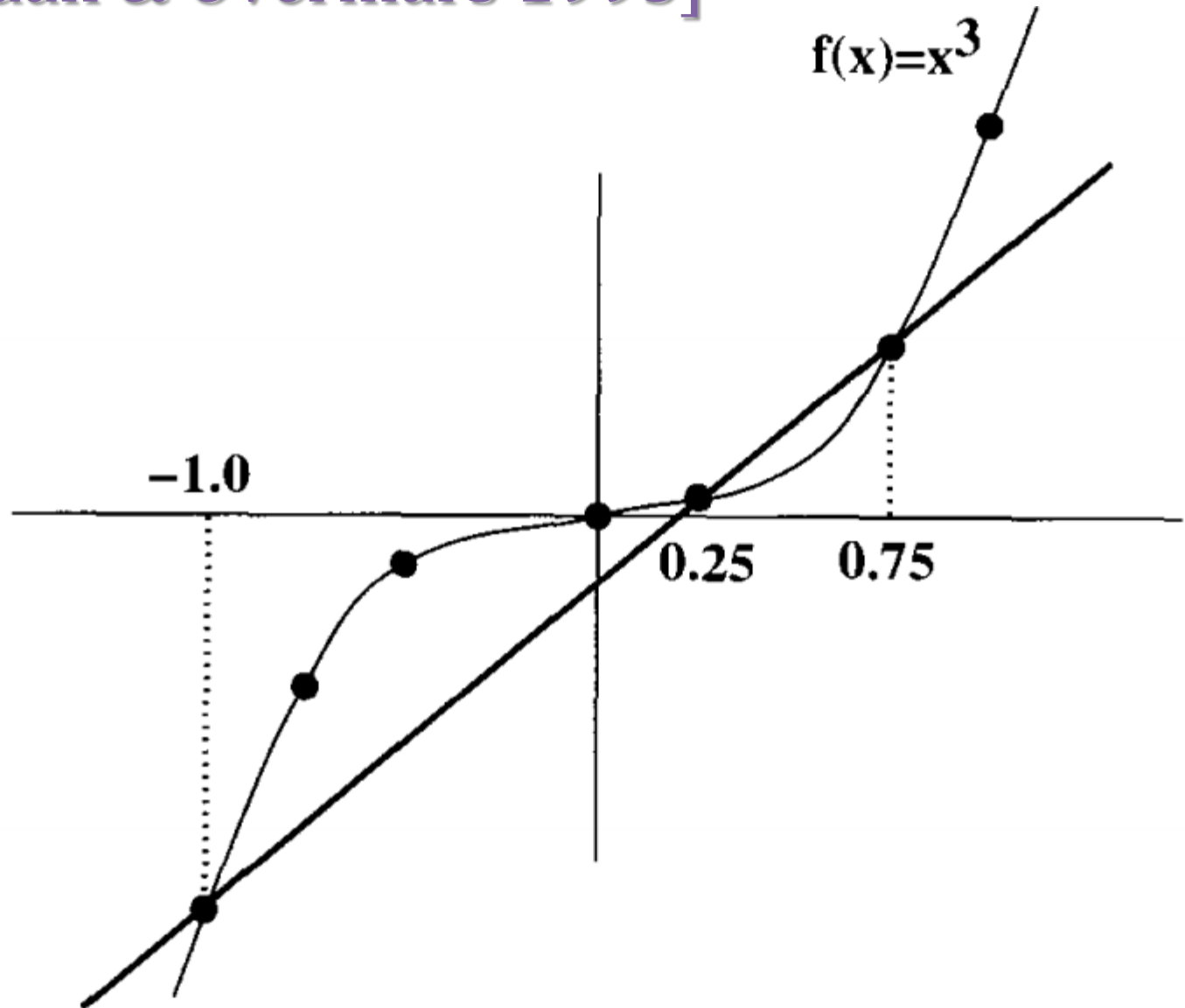# 3SUM′ → GeomBase
[Gajentaan & Overmars 1995]

B · · · · · $y = 2$

C/2 · · · · $y = 1$

A · · · · · · $y = 0$
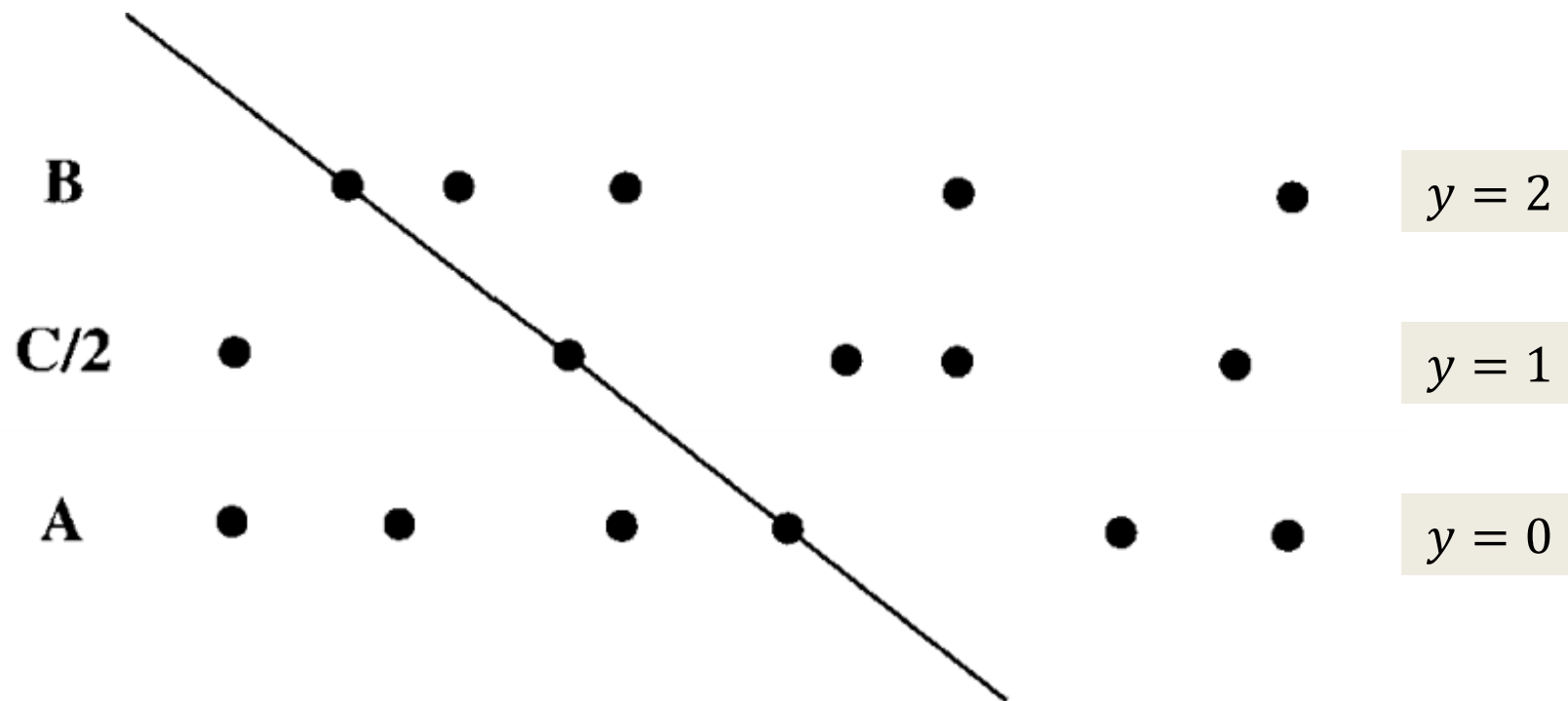
3SUM → 3 points on line
[Gajentaan & Overmars 1995]

$f(x) = x^3$

−1.0

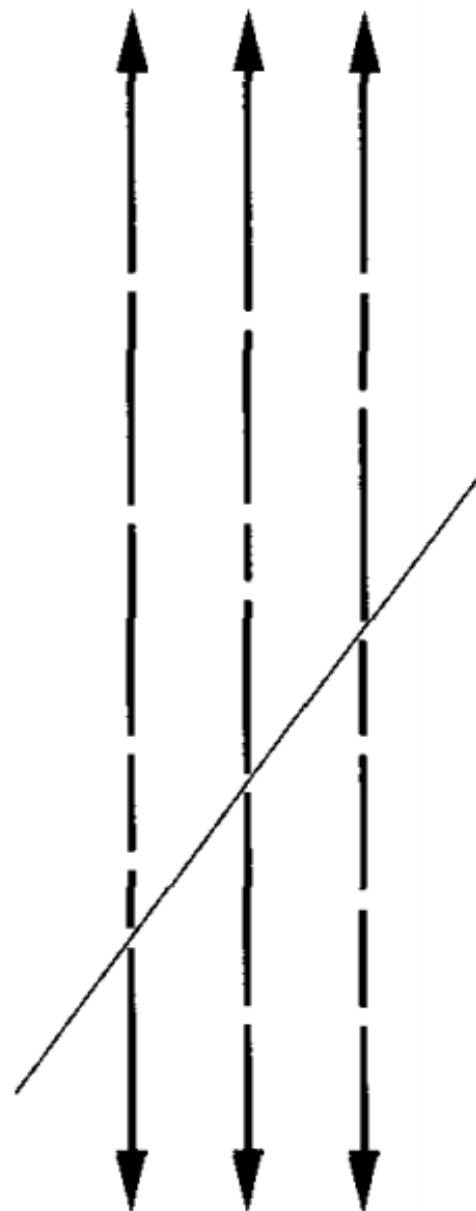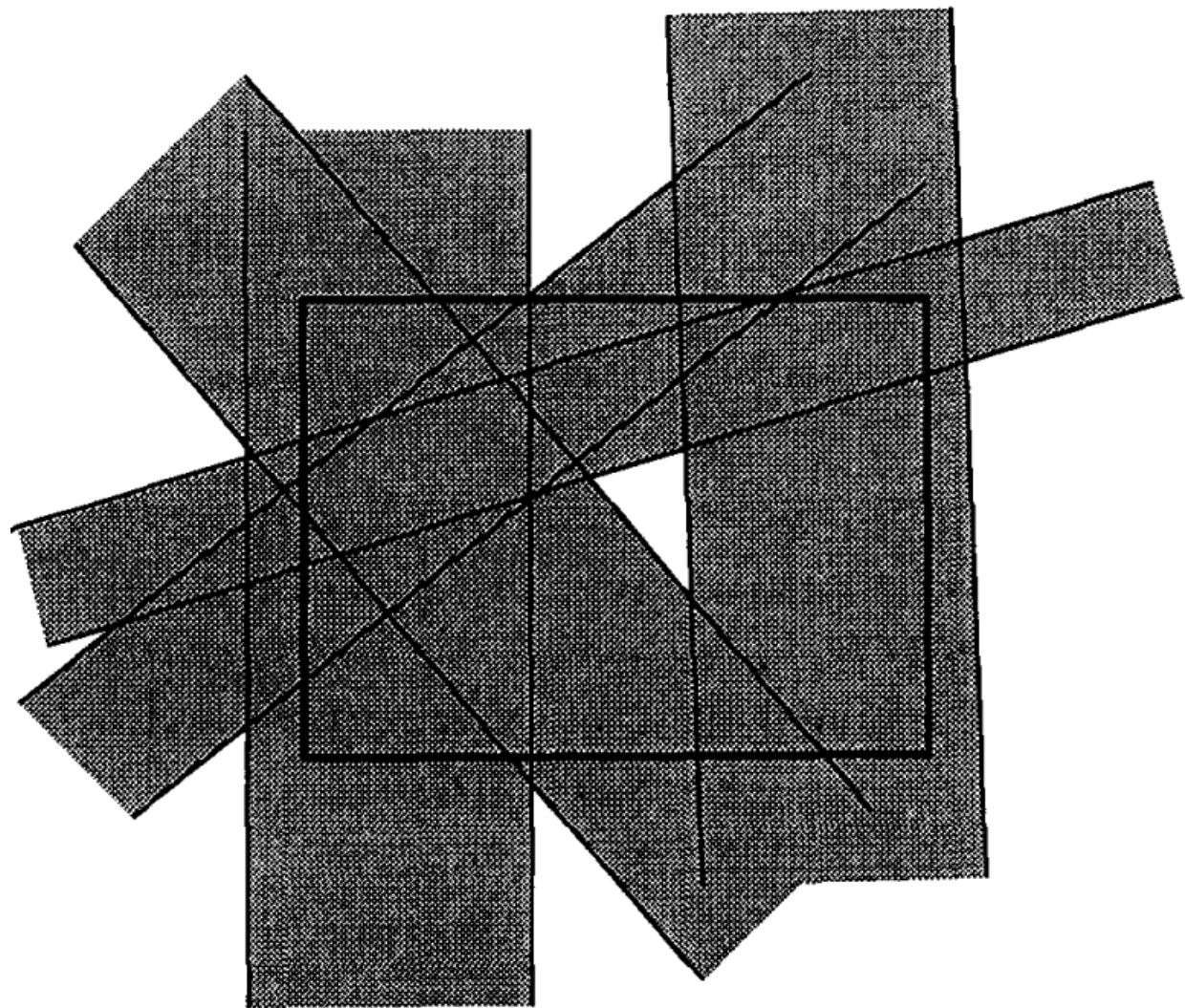0.25   0.75

GeomBase → Separator
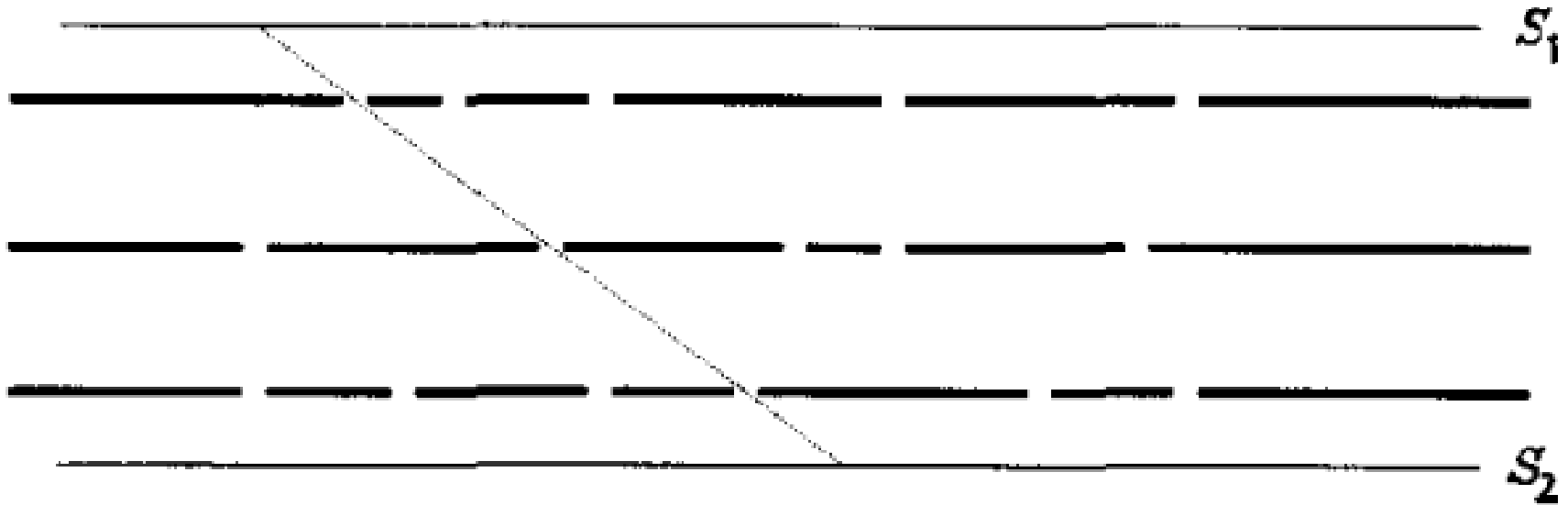[Gajentaan & Overmars 1995]
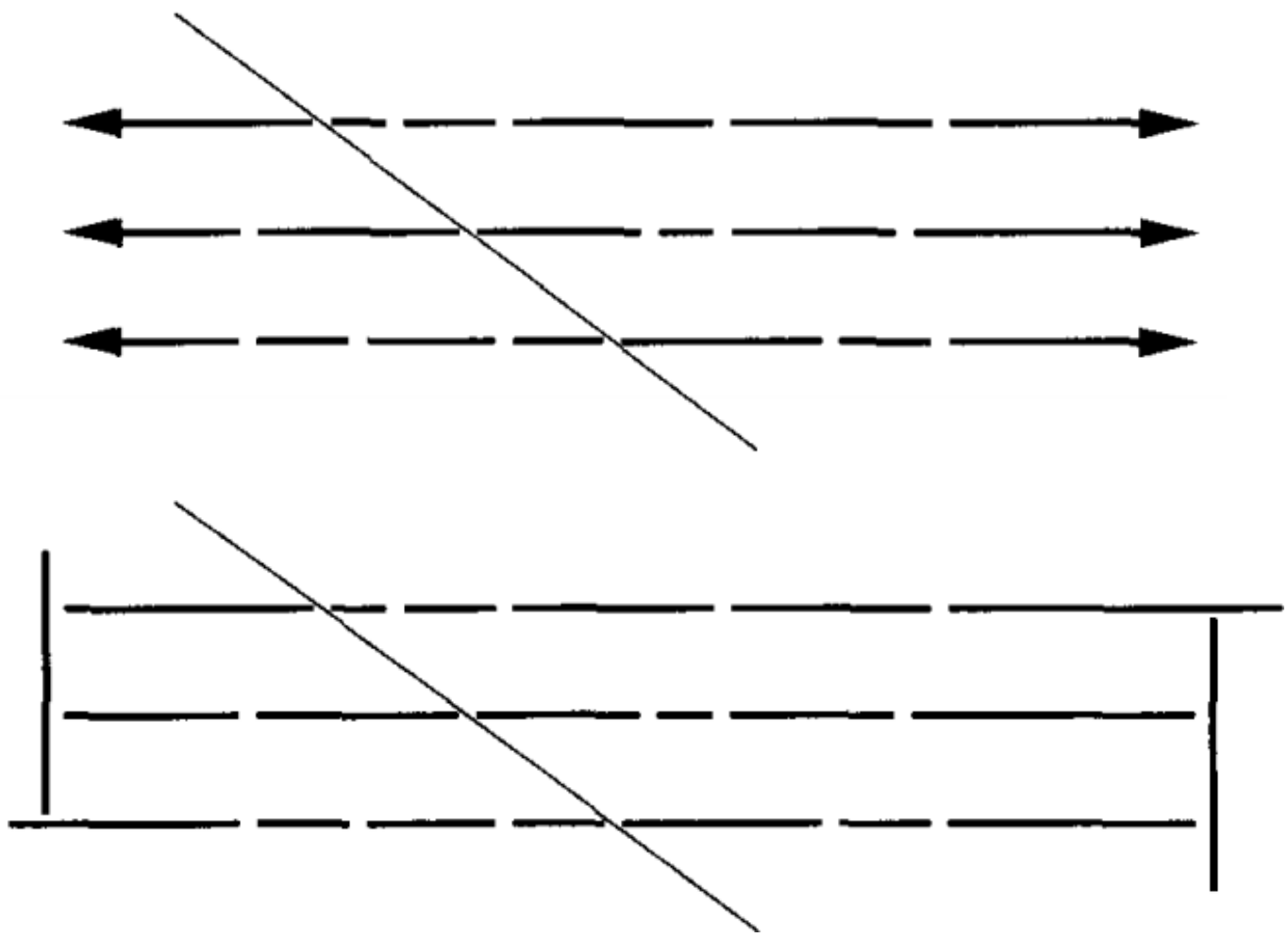
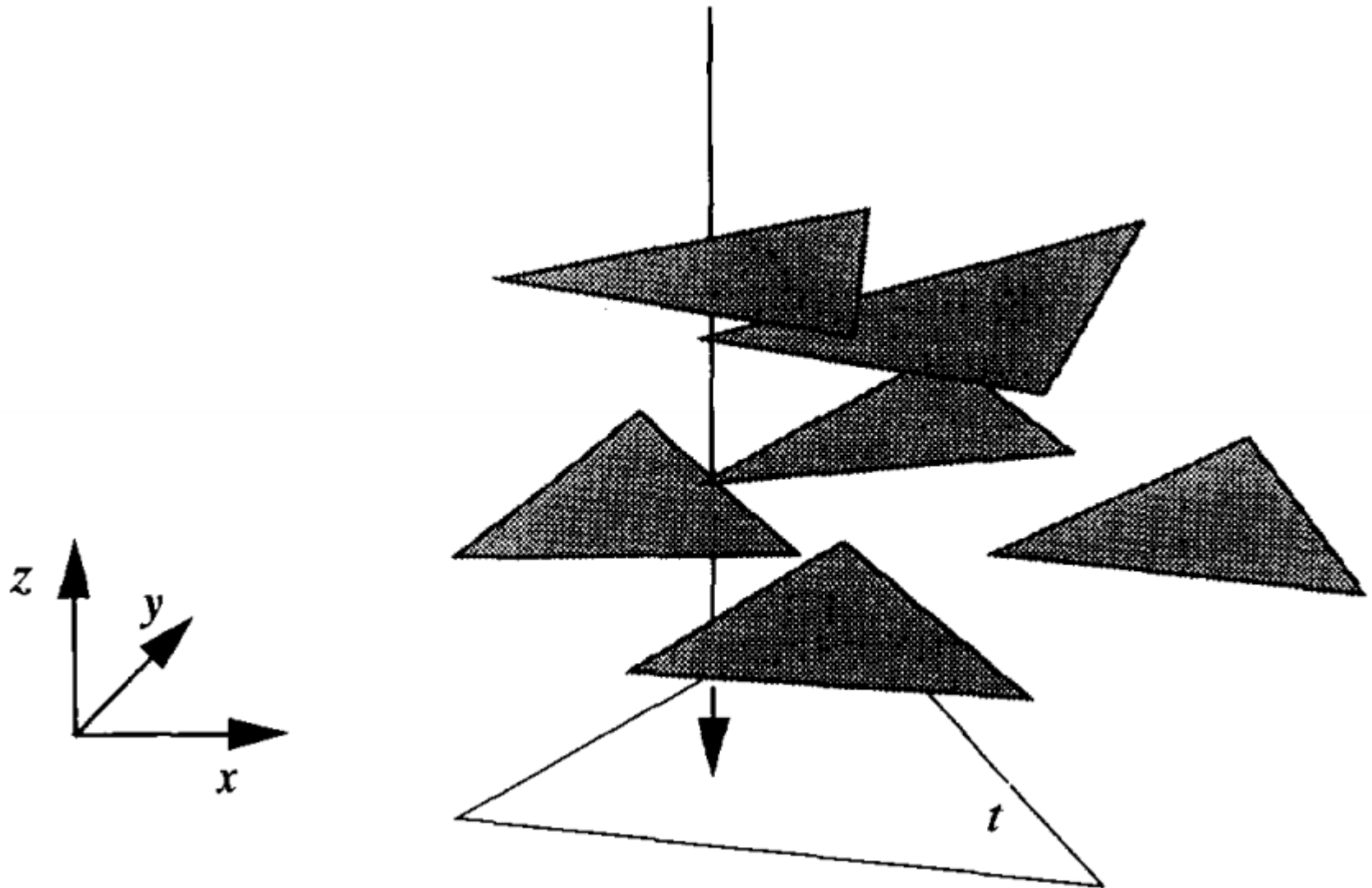# GeomBase → Strips cover box
[Gajentaan & Overmars 1995]

GeomBase → Visibility between segments [Gajentaan & Overmars 1995]
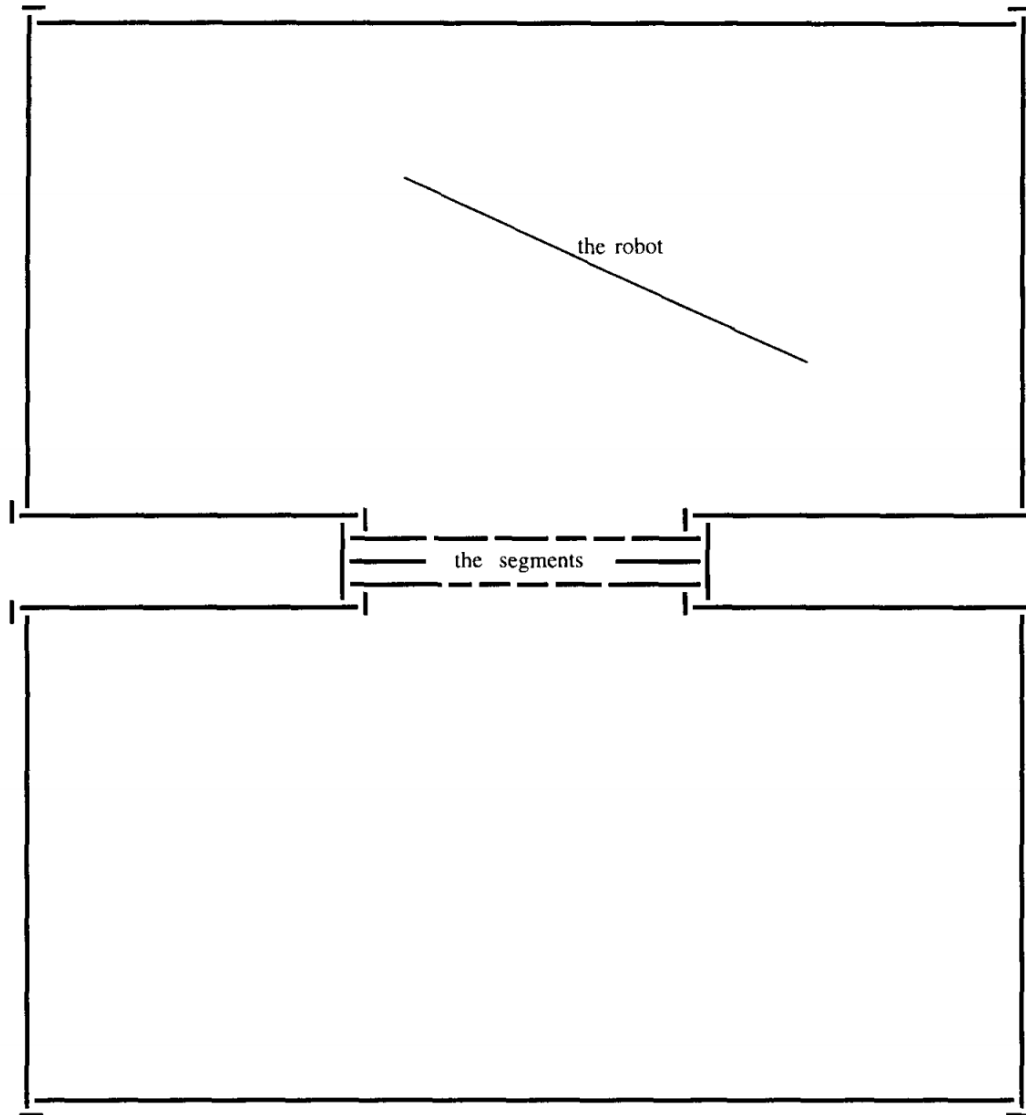
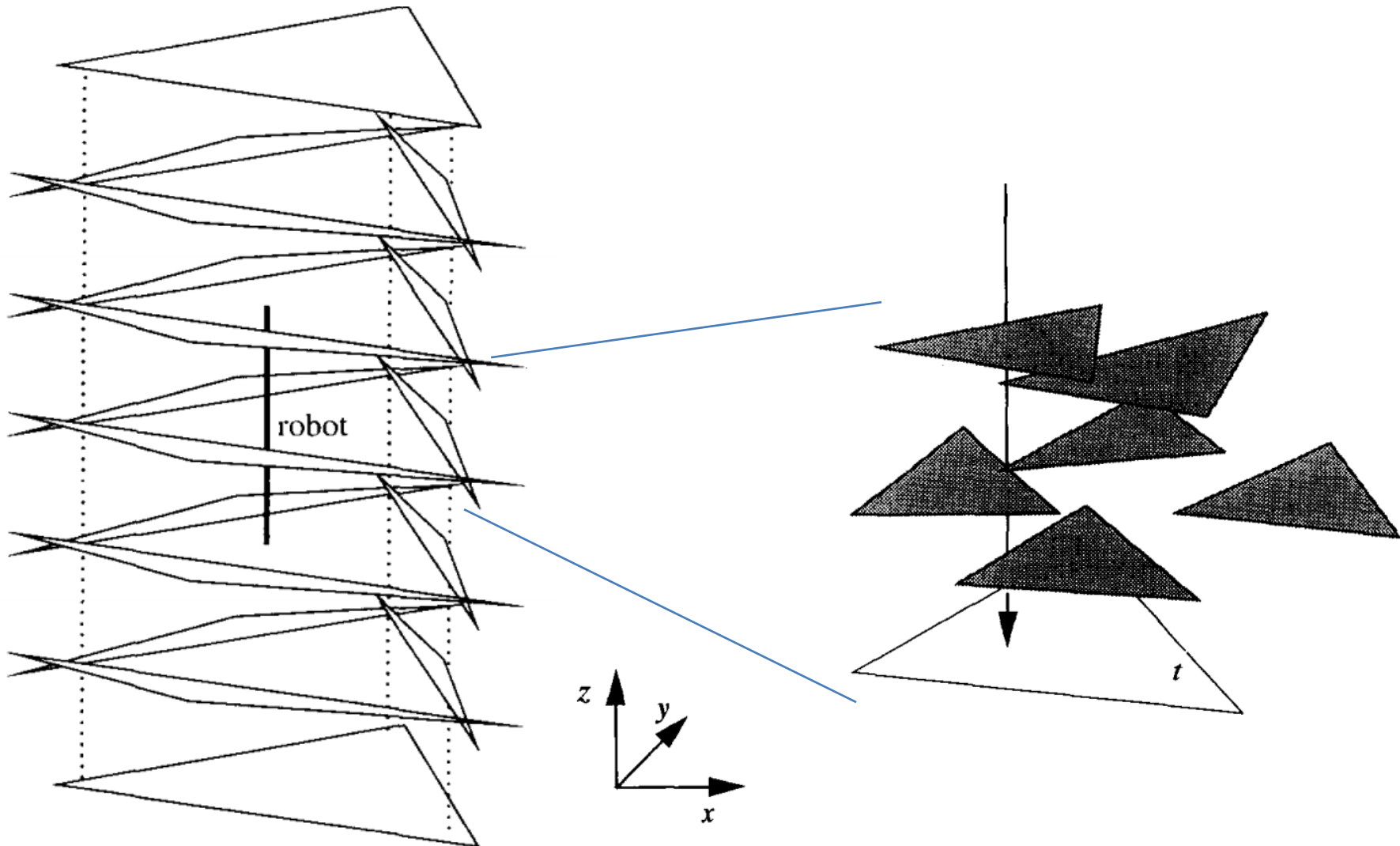# Triangles cover triangle → Visible triangle [Gajentaan & Overmars 1995]

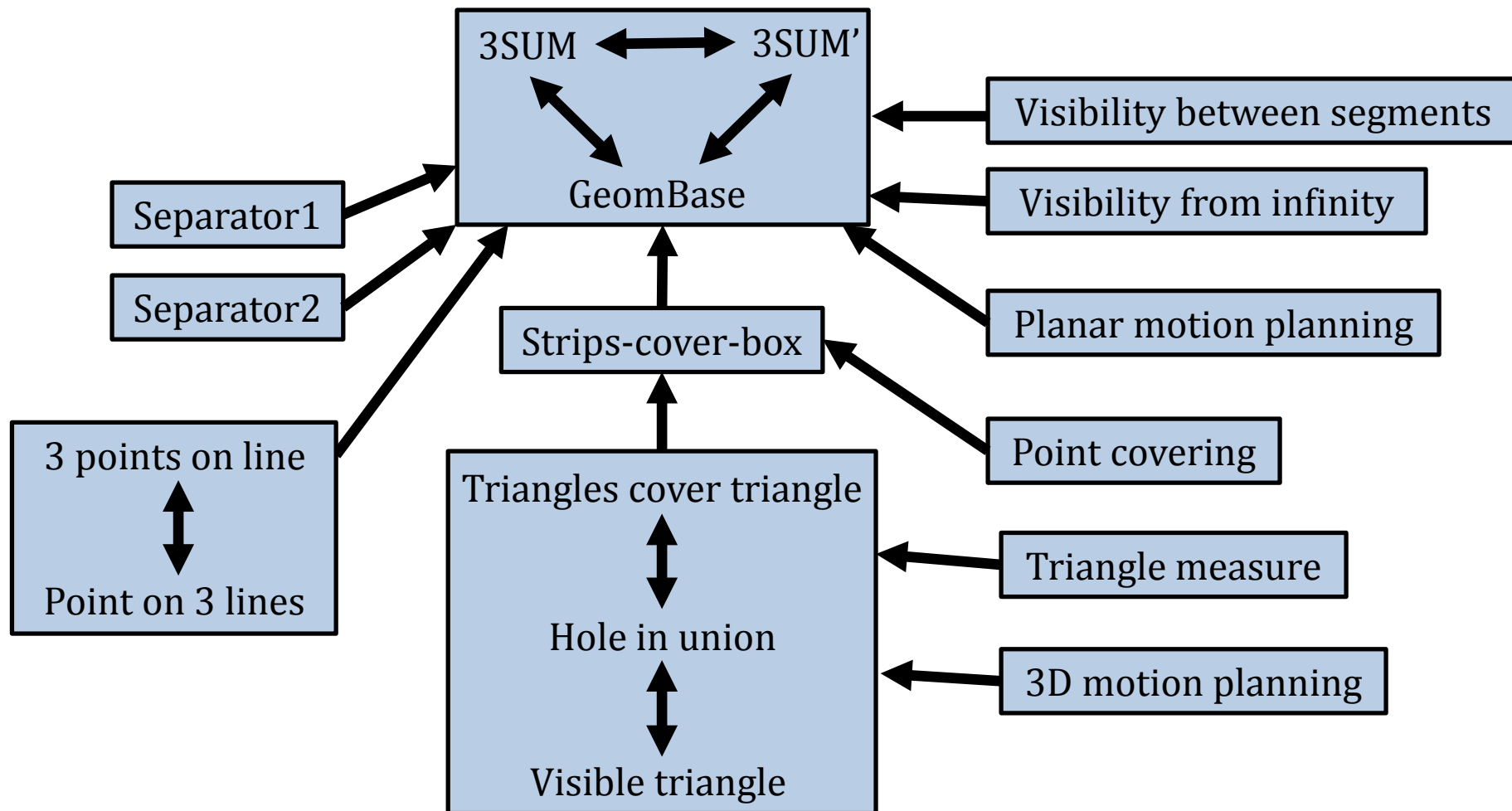# GeomBase → Planar motion planning
[Gajentaan & Overmars 1995]

the robot

the segments

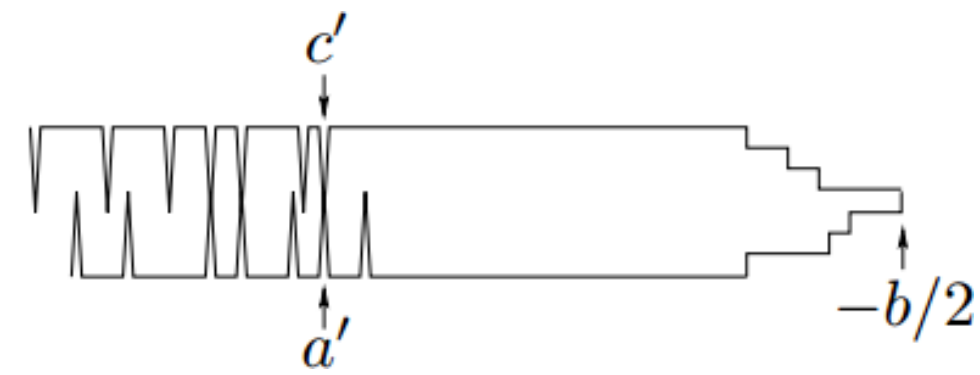# Triangles cover triangle → 3D motion planning   [Gajentaan & Overmars 1995]

3SUM-hard problems
[Gajentaan & Overmars 1995]

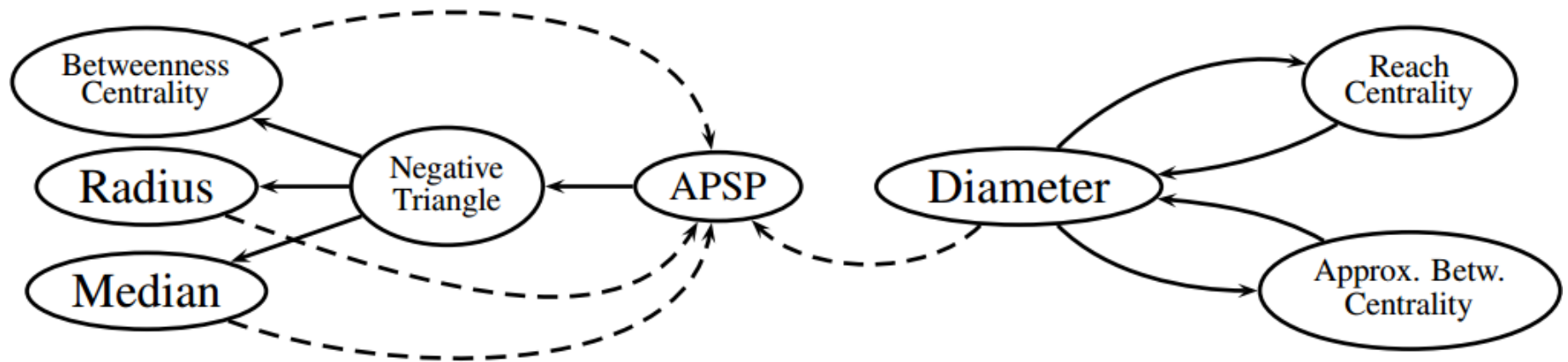# 3SUM′ → Fixed-Angle Chains
[Soss, Erickson, Overmars 2003]

A' $-B/2$ C'

c' a' $-b/2$
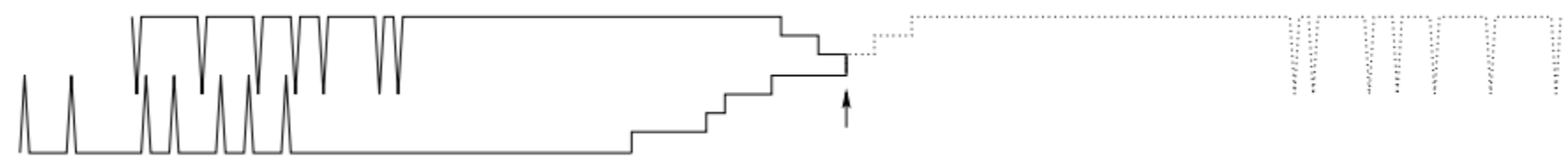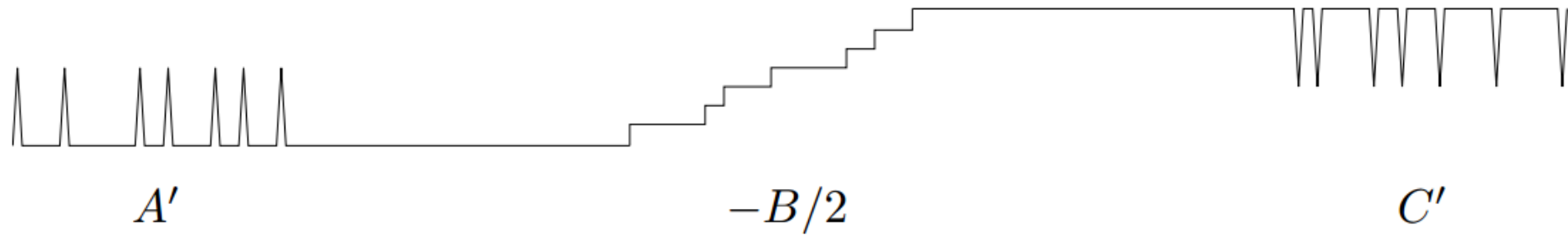
Subcubic Reductions
[Abboud, Grandoni, Vassilevska Williams 2015]

Subcubic Reductions
[Abboud, Grandoni, Vassilevska Williams 2015]

Negative Triangle

Radius

Median