Delaunay Triangulation

Euclidean Traveling Salesman Problem

- Approximation

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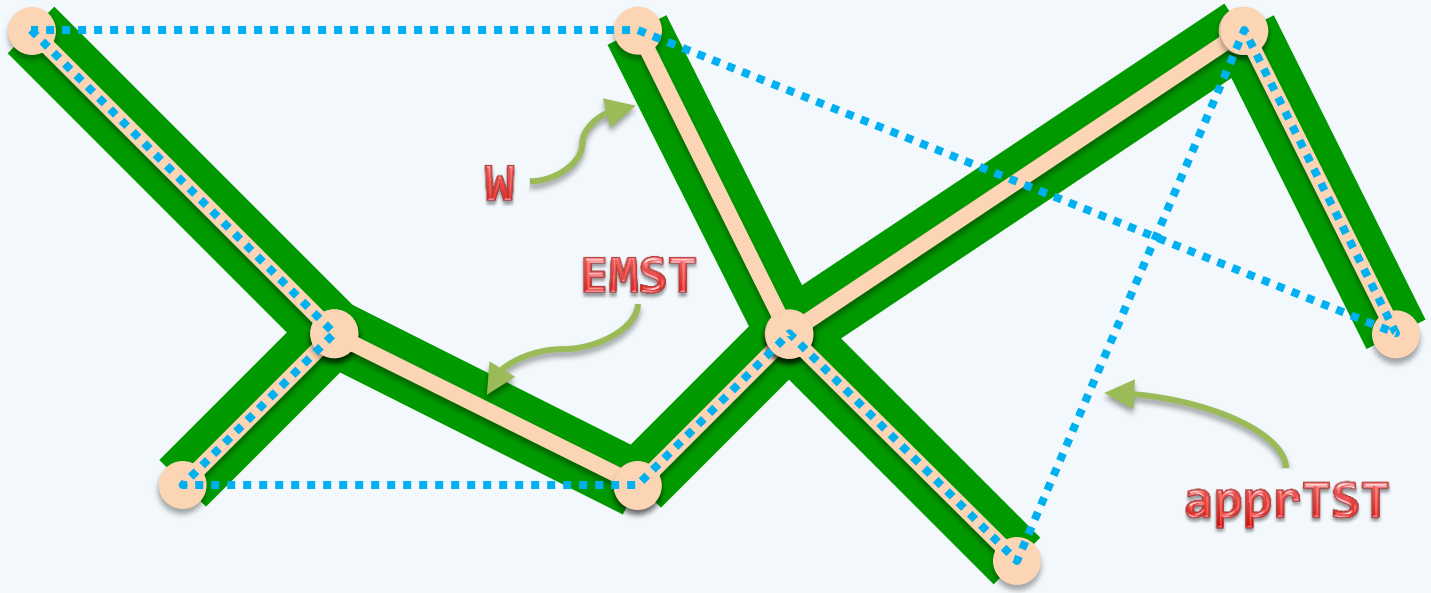
Rosenkrantz-Stearns-Lewis, 1974

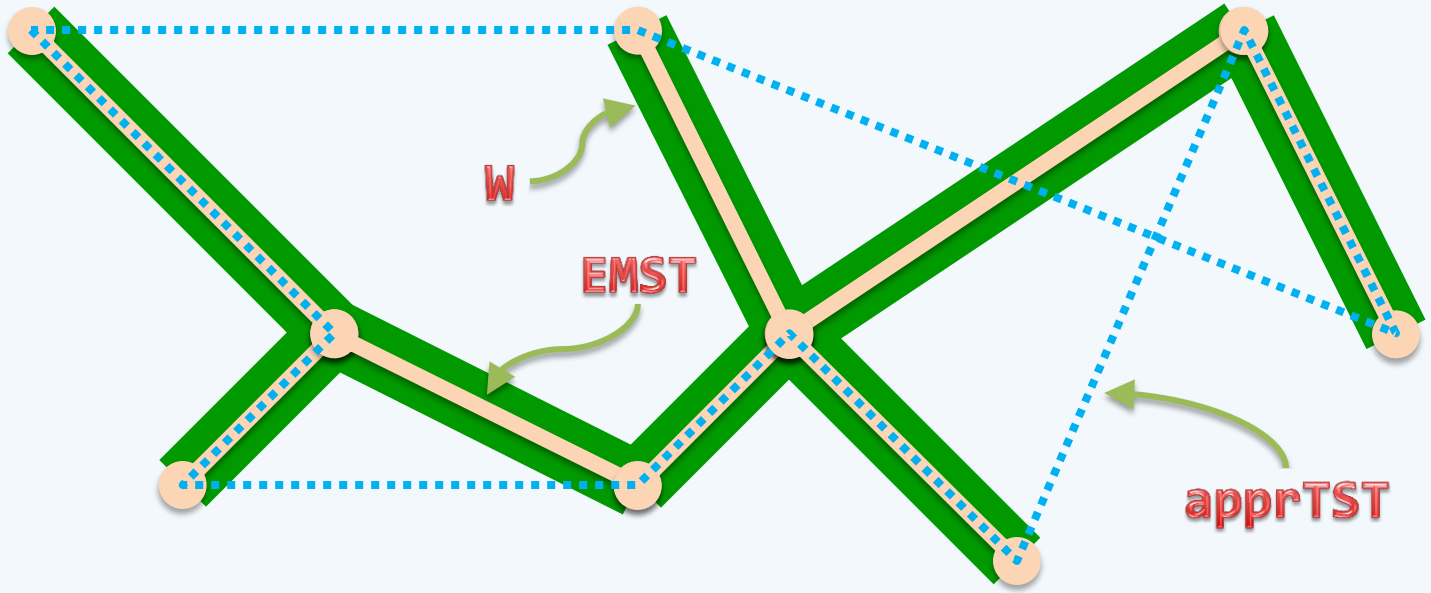
❖ An ETSP tour can be generated from an EMST in $O(n)$ time and

the tour is less than twice the length of the optimal tour



Algorithm With Proof

- Consider W, the graph by doubling each edge of the EMST
- We have: $|W| = 2*|EMST| < 2*|ETST|$



- W could be further shortened by **bypassing** all duplicate stops (Why?)