GPS models

Position computed from observations from one or more epochs

- *single point positioning*: one receiver tracks at least 4 satellites, $\sigma \approx 100\,\text{m}$

- *differential positioning*: two receivers making code observations to at least 4 satellites, $\sigma \approx 0.1\text{--}1\,\text{m}$, DGPS

- *precise differential positioning*: phase observations, fixed ambiguities, $\sigma \approx 1\text{--}10\,\text{mm}$, surveying

Filtering over epochs

- *one-way observation* (one receiver – one satellite): Filter for ranges, and ambiguities.

- *double differenced one-ways* (two receivers – two satellites): Filter for ranges, ambiguities, and possibly ionospheric delay.