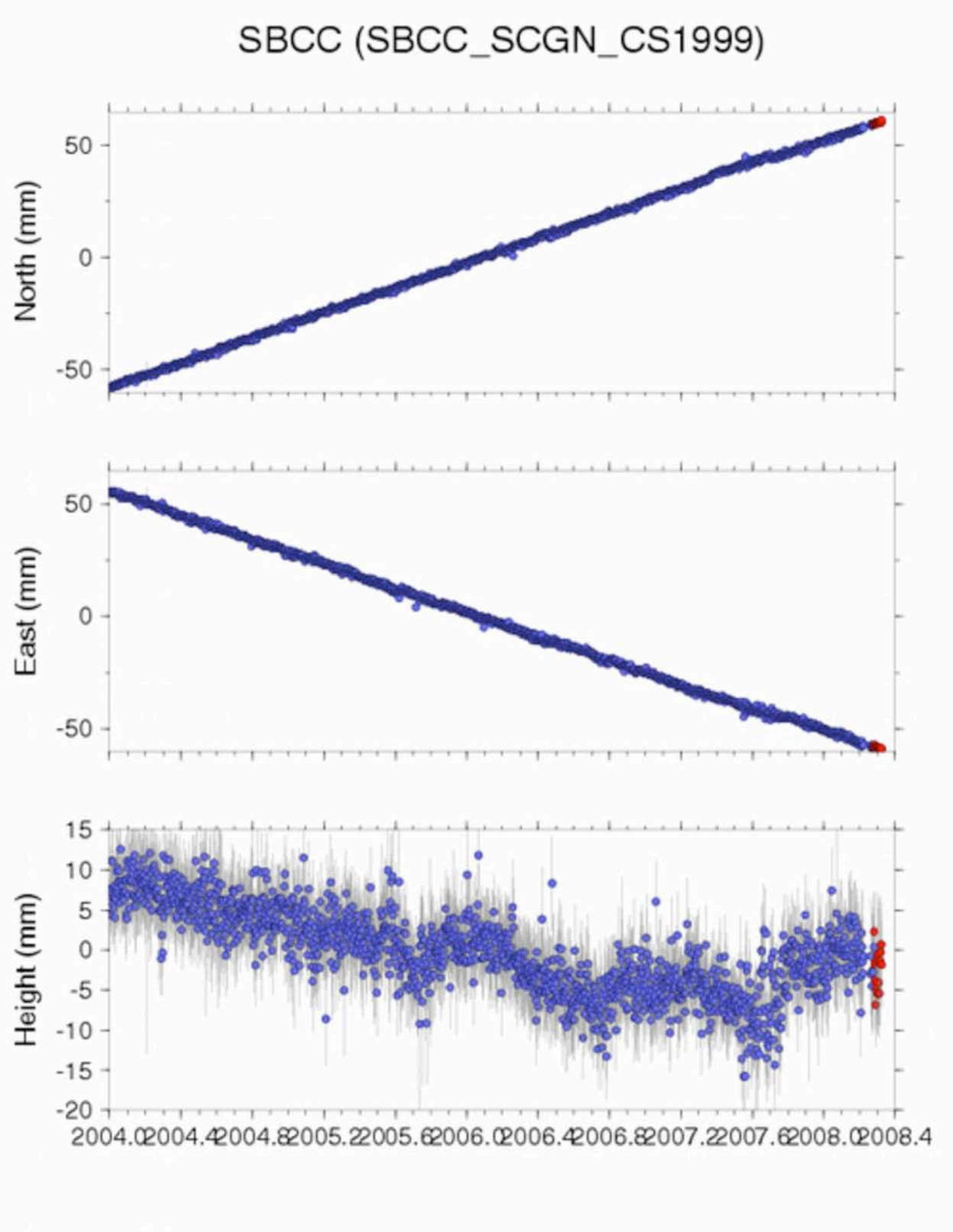
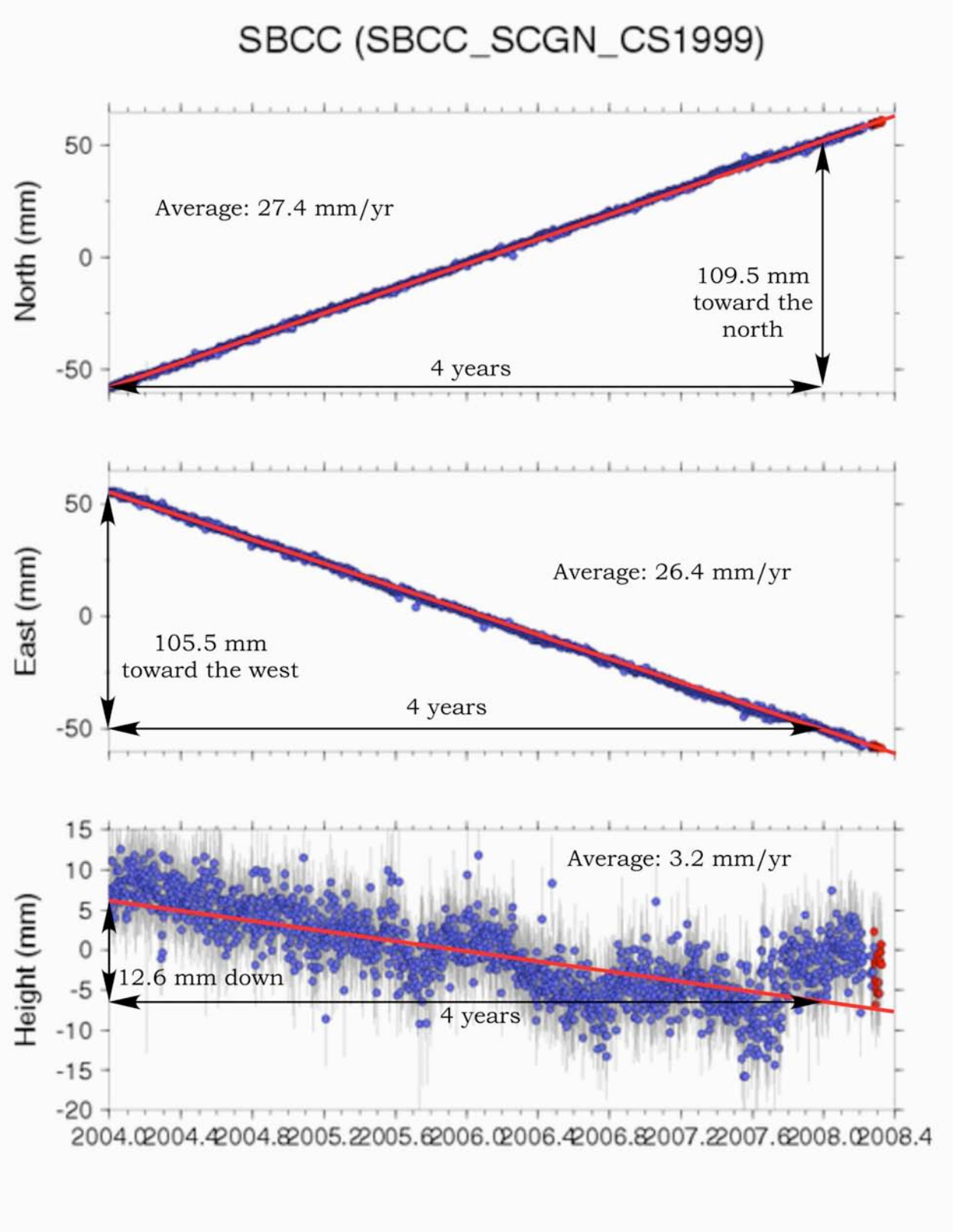
First Data Handout (from http://www.unavco.org/edu_outreach/data/SBCC.html)



Graphical Solution for First Station



Some High-School Mathematics

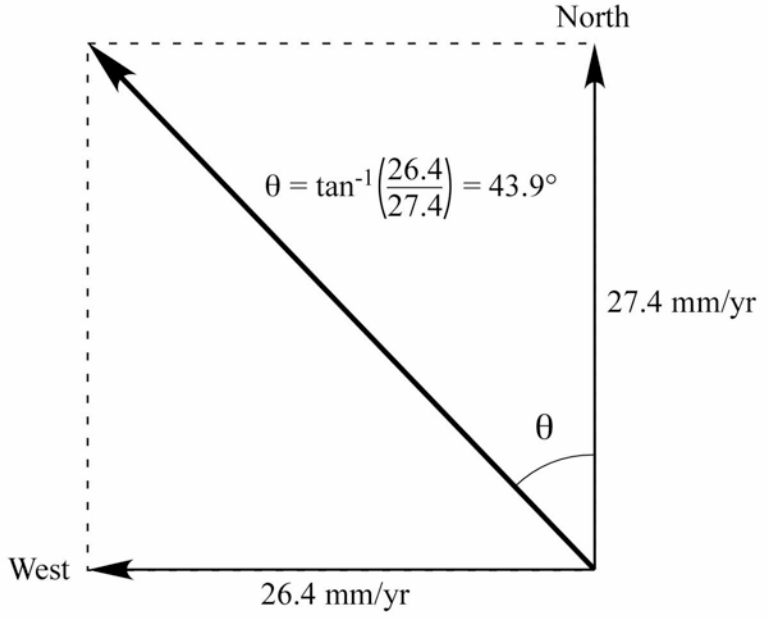
We know three components of the total velocity vector:

27.4 mm/yr north
26.4 mm/yr west
3.2 mm/yr down

What is the length (magnitude) of the total velocity vector? By the Pythagorean Theorem, the length of the total velocity vector (V) is

$$V = \sqrt{(27.4)^2 + (26.4)^2 + (3.2)^2} = 38.2 \text{ mm/yr}$$

Toward what azimuth is that vector directed? We plot the two horizontal vectors and use them to define the horizontal projection of the total velocity vector. We can then either measure the angle between the total velocity vector and a north-south line, or we can solve a trigonometric equation to find the angle.



North has an azimuth of 0 or 360°, east is toward 90°, south is toward 180°, and west is toward 270°. In this case, the station is moving 43.9° to the west of north, or toward an azimuth of (360° - 43.9°) = 316.1°.

Finding PBO Data

Start at the UNAVCO home page (http://www.unavco.org/) and click on the PBO link at the top of the page (http://pboweb.unavco.org/).

On right-hand column in the "tools" box, click on "Station Homepages" (http://pboweb.unavco.org/shared/scripts/stations/)

Under PBO Network Station Index, click on "GPS" -- the third item in the list (http://pboweb.unavco.org/shared/scripts/stations/?page=station_type&groupid=1) and scroll down to the station you want data from. Click on the "Time Series Plots" quick link for the station of interest. For these exercises, I go to "Station Position Time Series," Static Plots," and choose the "Unfiltered" plot.

Second data handout (from http://www.unavco.org/edu_outreach/data/BEMT.html)