

Settling Time of 900-Series Biaxial Clinometers

Tech Note

After 900-Series Biaxial Clinometers are installed, the output takes some amount of time to settle into its "steady state." The reason is as follows: When the sensor is moved before installation, liquid contacts all of the internal glass and electrode surfaces. When the sensor is then placed in one stationary position, a small amount of liquid remains on these surfaces. This liquid drains slowly into the pool under the action of gravity, slowed by viscous forces. After the liquid reaches equilibrium, the output stabilizes. The magnitude of the output change from settling is normally < 0.1 degree (< 360 arc seconds). Stability is normally achieved within 12 hours.

The plot below illustrates the settling behavior described. It shows the output change for the X and Y channels of four 900-Series Biaxial Clinometers after installation at time 0.79 days (19:00 hours on 27 January 1999).

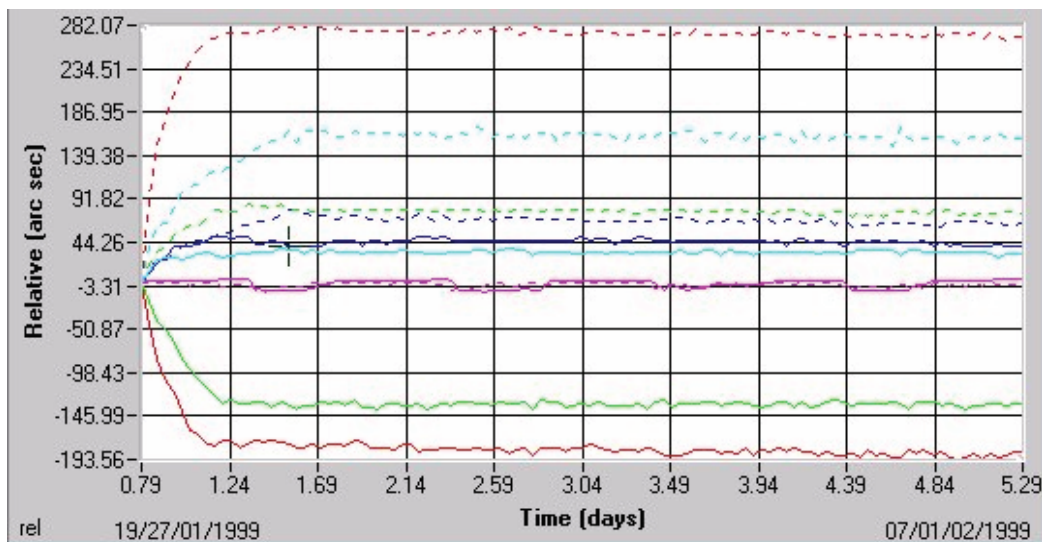


Figure 1. Different magnitudes of initial settling of 900-Series Biaxial Clinometers