The DP system will calculate the variance for each PRS. The variance is representing how noisy the reference system is. The variance is changed into Standard Deviation before it is displayed to the operator.

The calculated noise (variance / standard deviation) is directly affecting how the DP system utilizes the measurements from that system.

The Standard Deviation is shown in the graph area of the PosRef view and as dotted circles around the "Filtered Data" on the plot.

Variance test

The Variance test assigns different weightings to each position-reference system, based on its calculated variance. In this way, the system is able to place more weight on the position reference systems that are providing the best measurements. The higher the system's variance, the lower its weighting factor.

The DP operator can affect the variance test limits by setting the Expected Accuracy for the system in the Reference System Properties dialog box. It is recommended to leave these settings as they are set by the Kongsberg Maritime.

Reference high variance

If the reference systems SD is more than 3 times the expected accuracy for the system the Reference High Variance message is given.

Description: This message is reported if the standard deviation of the measurements from a position reference exceeds the limit.

The reason for the fault may be a fault in the position reference system, a fault in the position reference interface to the DP-system or environmental disturbances (air/sea).

The method of detection is the comparison of the continuously calculated standard deviation of position reference measurements against the standard deviation limit.

Additional information:

Limit for acceptable standard deviation.

Calculated standard deviation.

Possible consequences: The position reference system is rejected.

Corrective actions: If only intermittent, none.

Reference high noise

If the reference systems SD is more than 2.45 times the expected accuracy for the system the Reference High Noise message is given The position-reference system is not rejected in this event, but the K-Pos DP system places little weight on the position-reference system in question.

Description: This message is reported if the variation of measurements from a position reference system exceeds the limit.

The reason for the fault may be an error in the position reference system or in the position reference interface to the DP-system, or environmental disturbances

(air/sea).

The method of detection is the comparison of the continuously calculated variation of position reference measurements against the standard deviation limit.

Additional information:
Standard deviation of the measurements from the position reference system.
Limit for acceptable standard deviation.

Possible consequences: The DP system performance may be degraded if the position reference system is used.

Corrective actions: Check the serviceability of the position reference system.

The Standard Deviation is shown in the graph area of the PosRef view and as dotted circles around the "Filtered Data" on the plot: