**Resultados de las simulaciones**

* We did the simulations between the sensors **1-2, 1-3** and in one case between **1-4**
* The time choosen for the time delay estimation is:
* First event: **2:20-2:45** 2400000 samples
* Second event: **8:40-9** 192000 samples
* **True delay 1-2:** Event 1: 3,825s (367.200) Event 2: 3,912 (375.552)
* **True delay 1-3:** Event 1: 5,564s (534.144) Event 2: 5,782s (555.072)
* Algorithms used for estimate the correlation: **Xcorr, Gcc Phat, Gcc SCOT**
* Algorithms to process the signal: **TK, Time Gain Normalization, Percentile Noise Removal and Pass Band Filter (1-12 KHz)**

**Signal without pre-processing**

Results without sense. The algorithms did not work for any event and between any sensor.

Conclusion: Interference and the correlated noise spoil the Estimation

**Comparison between TK and Time Gain with Filter**

Event 1

* Filter+TK better than with Filter only
* Filter + TK little better than Time Gain + Filter, Although the best scenario is Time Gain with gcc SCOT
* Doing Tk, filter and Time Gain we got the worst results

Event 2

* Filter alone is much better than Time Gain alone, but a little worse than Time Gain+Filter
* Filter + Time Gain and Filter alone are better than Filter + TK
* All at the same time, TK+Filter+Time Gain as bad as Time Gain alone