ent subsamples and compare their distributional and correlational properties. It appeared that using \( \chi^2 \) test with the level of significance set to \( \alpha = 0.1 \) all the subsamples drawn from a certain sample are homogenous, i.e. have the same one-dimensional distributions. Usage of rather big value of \( \alpha \) is explained by presence of correlation in subsamples. To conceal the effect of correlation we also used every second observation in each subsample to compute empirical distributions. The turning point test demonstrated that the hypothesis about white noise should be rejected with the level of significant \( \alpha = 0.05 \) indicating that there is memory in each of those sample. Finally, in each subsample NACF decayed geometrically fast. The reason for performing the turning point test instead of e.g. LjungBox portmanteau test is that it is unreasonable to expect the same number of lags having statistically significant correlation in samples of small sizes. Although these observations do not strictly prove that SNR process at a certain separation distance from the transmitter is covariance stationary they provide enough evidence that first and second-order characteristics likely remain unchanged.

Recall that in addition to covariance stationarity of SNR process as a certain separation distance from the transmitter we also assumed that the mean (and possibly distribution) changes as user moves between different locations. To back up our assumption we performed the following experiments. A mobile station was in stationary position for some noticeable amount of time. Then, a user moved into another office room and the station again remained in stationary state for some amount of time. Two arbitrarily chosen SNR samples obtained by changing the location of the user during the measuring process are shown in Fig. 7. Observing these traces one may notice that the change in the received signal strength happens almost instantaneously. The reason is that the distances between attraction points in office environment are rather short (recall that the granularity of SNR measurements is 0.5s).

![Figure 7: Time series of SNR observations (location is changed).](image)

(a) Sample 1  
(b) Sample 2