



$$10 \log \left( \frac{SNR(I_T)}{SNR(I_B)} \right) \geq X \tag{1}$$

where:

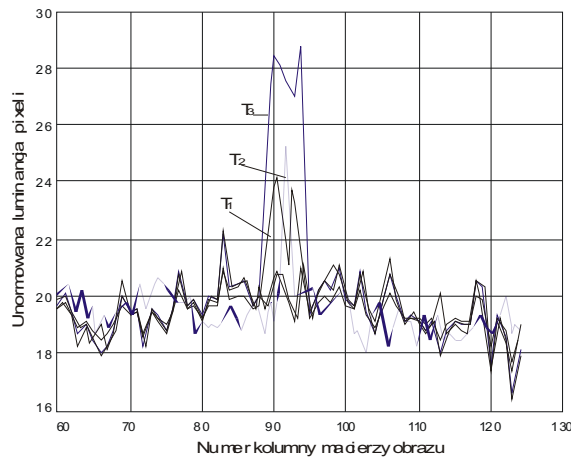
X – the value which follows experiment;

SNR (IT) - signal to noise ratio for images with target;

SNR (IB) - signal to noise ratio for images without target.

**4. Results of target detection**

Examples of results of target search and detection for fixed characteristics of maritime conditions and objects are shown in figure 2. For the detection model described by the pattern above, detection process was divided into 3 basic periods of observation, accordance with time: T1, T2, T3.



**Fig. 2.** Detection of suitably number of pixels belong to target in terms of time observation

It is worth mentioning that the detection process is analyzed in the term (1), however it depends on number of suitably pixels for which the SNRTH term is fulfilled. For example, according to O’Nile’s criterion, to state that a ship in maritime conditions is detected it requires to distinguish 36 pixels.