SECTION XXI.
ELECTRONIQUE ET TÉLÉCOMMUNICATIONS

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INFORMATION VISUALIZATION IN LAND UNMANNED COMPLEX

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Analysis of the current status on armament and military equipment development of the leading states has permitted to identify an important trend [1, 2]. It is engagement of the battle robots for execution of the reconnaissance, engineering, battle and logistical tasks. It deals with prospects of designing of the land-unmanned complexes (LUC) of heavyweight and middleweight classes in Ukraine [3]. Therein an assessment of LUC participation results in adversary engagement with the different kinds of enemy weapon is important. As rule, a probabilistic model is applied for that assessment taking into account the shot flows and shooting duration of opposing forces. Existing model of adversary engagement [4] does not permit to assess the time behavior of adversary engagement process and it should be upgrade.

The purpose of report is to develop method for determination of target acquisition and recognition time with engagement of LUC equipped with both wide-angle TV-camera and TV-sight as the first opposing force.

The main parameters of viewing process at acquisition and recognition (condition of image watch and target contrast) are took into consideration. Time of target acquisition and recognition is assessed for different contrast and options of target image visualization: on board display and head-mounted indicator. Man with average dimensions is accepted as target.

The proposed method for determination of target acquisition and recognition time with engagement of LUC has permitted to identify some peculiarities. For example, time for target acquisition on screen of remote display is some less then a time of target acquisition on helmet-mounted indicator. Information may be displayed on remote display or on helmet-mounted indicator at target recognition by means of TV-sight because of both options are equivalent to recognition time.

General conclusion may be done on the results of the carried out comparison of man acquisition and recognition time at application of remote display and helmet-mounted indicator.

The images formed by wide-angle TV-camera and TV-sight of land-unmanned complexes should be displayed simultaneously on remote display and helmet-mounted indicator with purpose to present possibility for operator to choose image estimating visually its quality.

References:

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