

JEMNÁ MECHANIKA A OPTIKA

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Forward Observers and Forward air Controllers in the dismantled units and their equipment (V. Chlup)95

The idea of the Forward Observers (FO) and the Forward Air Controllers (FAC) use is relatively new element in the history of the armies. The first observers and the Controllers have appeared directly in the compositions of the small units (the company, the platoon) approximately fifty years ago. Although the specific difference between the activities of the observer and the controller exists, in practise their functions blend together often. The primary task of the observer is to search out the targets on the battlefield to ensure their location and afterwards to ask for the relevant fire support because of their elimination. The controller shall not only ensure the target but also mark it so that this fire support could be guided to it often autonomous. The observers are used chiefly for the artillery fire's direction. The controllers are used for direct fire support of the air power. Nowadays both functions are often joined together and the combined teams of observers and controllers are formed. In addition, the new optoelectronic devices enable us to automate acquisition of the target so that it becomes the part of the imaginary digitalize battlefield. This permits to cut down all reactive times markedly.

Mobile workplace of the Forward Air Controllers MP TACP (J. Hornyš, T. Perner, V. Chlup) 107

The activity of the Forward Air Controllers (FAC), organized in the groups TACP, is the one of the most important activities among the dismantled units on the current battlefield. The dismantled companies or the platoons of the NATO armies cannot rely only on the force of their weapons, but they have to be able to utilize the firepower of the artillery and chiefly the air force. Only just the air controllers, incorporated in dismantled units, can mediate this fire support. Without controllers, the possibilities of dismantled soldiers are almost in balance with their enemies, who neutralize the technological hegemony (the device C4IRSTA) of the small units of NATO states and ABCA with

quantity of their warriors. The direct and indirect fire support of the dismantled units is only one of the activities of TACP groups. Their use in the depth of the enemy area is equally significant and it enables to lead the precision air attacks or to support the secret service activities (HUMINT, IMINT) with utilization of the air systems.

Detection, diagnosis, identification (V. Chlup) 118

This article popularises image principles employed for targets detection and their acquisition by specialised units TACP.

SPIE/CS – optical society informs 124

Infrared radiation detectors in optoelectronic systems of unmounted units of NATO Armies (F. Chlup) 125

The contemporary strategy of the NATO Armies emphasizes the importance of soldier as the individual. It tries to secure for him the informational and technological domination on the battlefield by means of the modernist technologies. The soldier should be able to fulfil his task under any conditions. The specific assignments of the soldier, the team, the squad, the platoon and the company necessitate the certain technological hierarchization, which reflects off the specific attributes of the infrared radiation detectors. These are situated in the focal plane of the objectives of the optoelectronic systems in the form of the micro detector array (IRFPA – InfraRed Focal Plane Array). Keywords: cooler, Focal Plane Array, HgCdTe, microbolometer, Molecular Beam Epitaxy, QWIP.

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