

COSTS AND EFFICIENCY EVALUATION MODEL OF TRAINING METHODS

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Abstract: This article results from the efforts of the authors to discover an objectified evaluation process of both necessary costs and costs incurred for training as a means of comparison and evaluation of the efficiency of the training conducted in the most conventional manner in the field training and of the training of military professionals employing the simulation and training technologies. The derived model is not finalized and cannot ever be. However, it may significantly influence the decision-making process about the proportionality of preferences of using individual training methods with regard to the available source framework. The model does not evaluate the efficiency of the training method itself because that is affected by available training resources, equipment, ammunition, fuel etc., and especially by the quality of training preparation, quality of the chief or the head of the training and many other factors.

Keywords: CAX, constructive simulation, training.

APPROACHES ON CURRENT RISKS AND THREATS TO THE INTERNATIONAL SECURITY ENVIRONMENT

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Abstract: Security has turned, more than ever, into a global problem. The world we live in is no longer bipolar, nor unipolar; it has become, more and more obvious, multipolar, and is going through a slow, but definite process towards re-establishing of power centres globally.

The international security environment is going through an ample process of transformation and remodelling, characterised by the manifestation of two antagonist tendencies: on the one hand, there are the expansion of the democratisation process, the growing weight of human rights and of market economy principles, at the same time with the enlargement of cooperation and integration in European and Euro-Atlantic structures; on the other hand, there is the process of disintegration and fragmentation of multinational state entities. In parallel, we can see that military and non-military risks are maintained – first of all of terrorism – and that international institutions' vulnerability towards these is increasing.

Throughout the article, we set ourselves to make a comparative study of the risks and threats towards the international security environment, analysing, in turn, the perspective of the USA, of NATO as a whole, of the EU and of Romania.

Keywords: Risks, threats, international security environment, multipolarism, balance of power, centres of power.

PAYLOAD OF UNMANNED AERIAL VEHICLES

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Abstract: The observation of the enemy and the battlefield had a very important role in the past and today as well. The information gathering is vital because the movement and the strength of the enemy military vehicles and troops determine the tactic or the strategy. The early balloon detection has now been changed to aircraft observation. Pilots are sitting on these planes that have limited eyesight at night or are in bad weather condition. They are threatened by the environment and by the enemy anti-air defense. The loss of pilot is not allowable, his training course is expensive. Unmanned Aerial Vehicles (UAV) are the solution for this kind of problem.

Keywords: Application, devices, tracking, strike, future.

IDENTIFICATION AND CATEGORIZATION OF SECURITY RISKS

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Abstract: The experience in recent years clearly shows the shortcomings and problems related to crisis management in public administration, particularly the problems concerning the 2010 floods. The major factors which are directly related to these shortcomings include especially occurrence of new risks not typical for a particular region, ignoring major climatic and geological changes, insufficient analysis of security risks, absence of experience in managing new crisis situations as well as absence or lack of forces and means necessary for disaster relief. Other countries are facing similar problems as well. Taking an increasing number of these new risks into consideration, it can be said that their timely identification and analysis as well as measures taken in a particular crisis situation will be of vital importance when saving human lives and minimizing damage resulting from these risks.

Keywords: Crisis management, public administration, security risk, security environment, identification of security risks, categorization of security risks, categories of security risks.

DEGRADATION OF MECHANICAL PROPERTIES AFTER WELDING OF HIGH STRENGTH STEEL ARMOX 500

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Abstract: The ArmoX steels by SSAB Oxelosund are the most known and most widely used armored plates in European area. Secondary processing of these steels is generally problematic. The paper deal with research of ARMOX 500 steel and its behaviour during welding and consequential change of microstructure and then mechanical properties as is strength. The main topics are to determine the level of degradation and its reason.

Keywords: High strength armoured steels, ARMOX, welding, hardness, toughness, tensile strength, termo – mechanical processing.

FINDINGS ON THE DEPLOYMENT OF CIVILIAN EXPERTS FROM THE SLOVAK REPUBLIC INTO COMMON SECURITY AND DEFENSE POLICY MISSIONS

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Abstract: Deployment of civilian and military personnel into Common Security and Defense Policy (CSDP) missions is an indispensable part of a unique integrated crisis management approach used by the European Union and its member states. The aim of the following article is to demonstrate select problems concerning deployment of Slovak civilian experts into Common Security and Defense Policy Missions based on the results obtained from observation and statistical survey.

Keywords: Civilian expert. Slovak Republic. Common Security and Defense Policy. European Union.

HYBRID - ELECTRIC POWER SOURCES ENERGY MANAGEMENT DURING DYNAMIC LOADS IN MILITARY VEHICLE

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Abstract: This paper describes a management energy source supplied by a polymer-electrolyte-membrane fuel cell (PEMFC) as a main power source and secondary power source with reversible storage energy devices: battery and supercapacitor system, for modern distributed generation energy system, and particularly for future fuel cell military applications. The energy system in hybrid system is balanced by optimization and regulation algorithm in dependence of the driving conditions - drive cycle. A supercapacitor system (module) is a high dynamic and high power density device and supercapacitor system. Function of supercapacitor system is supplying energy traction system in extremely short power demand requirements. A battery module, as a high energy density device, operates for supplying energy traction system for long time. The aim is the real-time control management of the power distribution between the fuel cell and its associated energy storage to optimize the global hydrogen consumption and energy consumption of each energy storage system in military vehicle – Unmanned Ground Vehicle during dynamic loads in the drive cycle.

Keywords: Energy management systems. Military application. Fuel cells. Batteries. Supercapacitors.

TESTING THE INFLUENCE OF ADDITIVE ENVIROX DURING OPERATION OF THE COMBUSTION ENGINE T 815

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Abstract: In diesel engines burning process produces a significant amount of undesirable substances, which together with the mist of lubricating oil produce carbon, which is deposited in the combustion chamber and exhaust tract. Usage of additive with CeO₂ nanoparticles added to the fuel allow better fuel combustion comprising hydrocarbons and consequently reduce fuel consumption and with support release of burnt deposits occur in the final effect gradually to eliminate them. The primary endpoint of 25 tests was the specific consumption of fuel with and without additive. Tests of engine Tatra were performed at speed 1400 min⁻¹, 1800 min⁻¹ and 2200 min⁻¹ with 40 %, 60 %, 80 % and 100 % loads of torque. Additive Envirox did not effect consumption of fuel. Measurement error determined by statistic analysis of fuel consumption as a percentage of the standard deviation ranged from 0.15 to 1.77 and exceeded only 1% at 1800 min⁻¹ and 40% of the load and speed of 1400 min⁻¹ (1.3 %), also at 40% load of torque. Measurement accuracy, defined as the combined standard uncertainty of the standard deviation and error of measuring instruments, less than 2 % was very good.

Keywords: Envirox, fuel, additives.

THE MEDITERRANEAN

Klára SIPOS KECSKEMÉTHY

Abstract: The author of the article deals with the Mediterranean region, which is one of the important geopolitical and geostrategic pivots in the world. The article gives a detailed description of the borders and characteristics of the Mediterranean region. In the second part of the article the renewed geopolitical and geostrategic importance of the area is depicted. The third part evaluates NATO's Mediterranean region related initiatives.

A more efficient and flexible partnership policy was adopted in April 2011. The Individual Partnership and Cooperation Programme will replace the Individual Cooperation Programme (ICP) extended to Mediterranean Dialogue and Istanbul Cooperation Initiative partners.

Stability in the Euro-Atlantic region is closely linked to the security of the Mediterranean area, therefore knowing and understanding the region is of extreme importance.

Keywords: Mediterranean Dialogue, Istanbul Cooperation Initiative, Strategic Concept, Berlin Partnership Package, Individual Partnership and Cooperation Programme.

MODELING OF LOGISTICS IN COMPUTER ASSISTED EXERCISES

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Abstract: A command post exercise, supported by computer simulation, is one of the primary training tools available to the Polish Armed Forces for training their commands and staffs on their joint mission essential tasks. The published article contains detailed information about modeling of logistics in computer assisted exercises. The Polish National Defence University (NDU) is the most important military university in Poland. The War Games and Simulation Centre (WG&SC) is an integral part of University which is one of the most modern in Europe. WG&SC is equipped with the Joint Theater Level Simulation (JTLS). JTLS is an interactive, computer-based, multi-sided war gaming system that includes land, sea, air, intelligence and logistics functions.

The article emphasizes that practical training is the most effective form for commands, staffs and troops to develop operation's scenarios or solve problems regarding the process of preparation for operations in time of war, crisis or peace.

Keywords: Computer assisted exercises, simulation system, modeling of logistics.