

SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)
Interactive Presentations (IP)

Author: Mr. Olexandr Kashanov
Yuzhnoye State Design Office, Ukraine

METHODOLOGICAL APPROACH FOR SUPPORT OF ROCKET COMPLEXES RESISTANCE TO
EXTERNAL FACTORS**Abstract**

Data of external factors (EF) that influence Rocket Complexes (RC) at all phases of their life cycle, take an important place in the list of initial data required for RC designing. Necessity of resistance to EF determines not only the technical design of Complex with the achieved level of its reliability, but also the costs for its designing, production and operation. In the designing process, a designer elaborates technical solutions, organizational and technical measures. Realization of those solutions and measures provides resistance of units, components and RC to EF impact. At the designing phase, verification of resistance is performed basically by calculations with formation of a complex plan of experimental development including verification of resistance to external factors. Considerable amount of experimental works connected with verification of design characteristics of RC resistance to EF. Novelty of technical solutions is created by any considerable change in requirements for a designed RC at each next phase of development. We need elaboration or development of methods for evaluation of resistance to new external factors, modernization of the existing methodology of evaluation for new ranges of EF changes, preparation of a new test base or modernization of the existing test base. The existing methodology of solution of the problems of novelty and optimization of costs with support of RC resistance to EF has been developed and gave good results at the peak of resource provision of the branch in the USSR times. Now in Ukraine, the known and developed methods for solution of problems are mostly not applicable because of limitation in provision by resources. First of all, it concerns the experimental verification of resistance to external factors that requires a great number of expensive pilot structures and a developed experimental base.