BASIC PRINCIPLES FOR MOTION SIMULATORS' IMPLEMENTATION[*]

1. ***Specific dynamics observation***, meaning that the system-related differential equation terms find correspondence in the technological implementation of the simulator. So, one provide:

   - an adequate simulation, that is a reality-like response of the simulator, providing possible measurement of the characteristic magnitudes in the simulated plan;
   - person's-under-test behavior as similar as possible with those in the real situations.

2. ***Specific motion freedom guarantee***, that allows, geometrically, any motion in the family of the specific ones. The person-under-test can choose the motion paths and the action timing alike with the real one, preserving his/her individual features for the solution of the motric tasks. Anyway, the constrained trajectories are strictly prohibited.

3. ***Versatile working regime provision*** through real-time parameterization of the dynamic model of the motric task. One guarantees the premises for the generation of senzorial-motric images (strain, force, displacement, speed, etc.), reality alike, as well as on larger scale, allowing the fine-tuning of the internal model of the motion organization that the person-under-test operate.

4. ***Adequate measurement conditions*** of the motion parameters (force, acceleration, speed, displacement, time), that is, real-time, in the frame of the human scale phenomenon. The above first-principle observation implies, in order to turn into advantage the dynamic behavior, the correct adjustment of the dynamics of the measurement to emphasize the causal relation between motion parameters.

5. ***On-line use of the acquired information*** is necessary to the continuous control and reorganization of the motion, related to the instant change of the energetic and informational potential of the person-under-test. This implies that the simulator has on-line sensorial feedback capabilities (i.e. alphanumeric and/or graphic display, optical or acoustic warning devices, etc.), online data processing capabilities, remote control facilities, a.s.o., according to specific needs and functional environment.