
МАТЕРИАЛЫ КОНФЕРЕНЦИИ
И ШКОЛЫ

**ADAPTIVE ROLE OF DIFFERENT STRATEGIES FOR POSTURAL
ANTICIPATION OF AUDITORY MOTION INFORMATION**

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Individual differences in the stability of the vertical posture are determined by the sensory modality dominant at orientation in space: visual in field-dependent (FD) people, vestibular and proprioceptive – in field-independent (FI) people. It was shown previously that, depending on the leading sensory modality, postural responses to moving sound images differed in FD and FI groups. The aim of the study was to test the hypothesis that there are different strategies for anticipatory postural adjustments while waiting for auditory motion information. In the waiting period stabilometric indicators as trajectory length of the center of pressure (COP), the ellipse size, characterizing the bearing area, the ratio of the ellipse axes and the COP shift, show significant changes. In case of the most biologically important approaching signal, substantial differences in stabilometric indicators were found between FD and FI groups, which can be described as “fight or flight” strategy. In FI subjects, involuntary preparation starts 24 seconds before the beginning of a signal: the ellipse size decreases,

then COP trajectory length also decreases, and the COP is clearly shifting back. Evidently, these changes indicated an anticipatory postural adjustment which is a preparation to self-motion. When signal is presented to the FI subjects, during the first seconds of the presentation the COP shifts forward to the sound source, and the COP trajectory length increases. This postural response to an approaching sound image can be interpreted as a “fight” strategy. A different strategy is implemented in FD subjects. Immediately before the signal, the ellipse size decreases, the ratio of its axes increases, and there is no significant reduction in the COP trajectory length. At the same time, the test subjects deviate back, but to a lesser extent than the FD ones. During sound signal presentation FD subjects significantly shift the COP back and increase the body sway, which implies of the “flight” strategy.

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