US Army Application for NASA Technology

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The purpose of this project was to use NASA technology to assist the U.S. Army in the assessment of motion sickness incidences in the command and control vehicle (C2V). The NASA technology utilized is U.S. Patent No. 5,639,436, Autogenic-Feedback Training Exercise system and method. During this study we determined the frequency and severity of motion sickness in personnel during a field exercise in the C2V. This vehicle contains four workstations where military personnel are expected to perform command decisions in the field during combat conditions. Eight active duty military men (U.S. Army) at the Yuma Proving Grounds in Arizona participated in this study. On the first day, all subjects were given baseline performance tests while their physiological responses were monitored. On the second day of their participation, subjects rode in the C2V while their physiological responses and performance measures were recorded. Self-reports of motion sickness were also recorded, with only one subject experiencing two incidences of emesis. Seven out of the eight subjects reported other motion sickness symptoms; most predominant was the report of drowsiness, which occurred a total of 19 times. The table summarizes symptom reports, hours of sleep obtained on the previous night, seat position in the C2V, and previous experience in this or other tracked vehicles. Changes in physiological responses were observed relative to motion sickness symptoms reported and the different environmental conditions (i.e., level, hills, and gravel) during the field exercise. The subject who reported the most symptoms (subject 3), and the one who reported no symptoms at all (subject 61, both rode in the C2V on the same day.
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