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THERMAL PERFORMANCE OF RADIATION HEATER IN SUMMER PERIOD

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One of main advantages of radiation life support systems is the use of renewable energy sources and ecological warmth. The promising areas of such life-support systems include radiation solar heaters, which have several advantages. The use of radiation heating systems in the offseason allows you to completely abandon the use of organic fuels or electricity and in cold season allows significant savings on heating buildings. Experimental and computational studies performed allow us to predict the thermal performance produced by the life support radiation system. Calculations made using experimental data showed that the heat generated by the solar radiation heating of water or non-freezing liquid in summer is sufficient for hot water supply around the clock, as well as for heating water and providing comfortable conditions in the rooms at night and in cold weather conditions.

Keywords: life support system, radiation heater, solar radiation, heat flux, renewable energy sources, thermal performance, insolation.

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