Solar power generation for UAVs in the former Soviet Union

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The work is summarized via a discussion of the future research directions for the development of solar-powered aircraft. The review is intended to motivate further work focusing on ...

Solar-powered unmanned aerial vehicles (UAVs) are uninhabited aircraft that leverage sun radiation to partially or completely power their onboard systems. The reduced load on batteries or ...

Solar energy, derived from sunlight, serves as the primary source of power for these drones. The concept of photovoltaic cells, which convert sunlight into usable electrical energy, plays ...

The experiments in building solar thermoelectric generators showed that they have a much higher efficiency of transforming solar energy into electricity than small steam machines (ref. 4, pp. 7-23).

Abstract: Solar-powered Unmanned Aerial Vehicles (SPUAVs), commonly known as solar drones, are an innovative and eco-friendly category of aircraft that rely on solar energy as their primary power ...

This study fills a critical gap by providing a holistic analysis of renewable energy integration in UAVs and proposing innovative approaches to optimize endurance, efficiency, and environmental ...

In the mid-1980s, not long after HALSOL went into mothballs, NASA awarded a contract to Lockheed to study a solar-powered HALE UAV named the "Solar High Altitude Powered Platform (Solar HAPP)" ...

This article explores the motivations behind this endeavor, earlier Soviet precursors, the main directions and regions within the program, its concrete results, and its fate after the demise of ...

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