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(57) Abstract :

ABSTRACT: Title: An Optimized Renewable Energy Consumption System in Hydrofoilers The present disclosure proposes a system (100) integrated with hydrofoilers (130) that maximizes energy efficiency, extends operational range, and enhances user experience by integrating multiple renewable energy sources. The system (100) comprises a computing device (102), a server (118), a network (120), and a sensor network (122). The computing device (102) comprises a controller (104), a memory (106), a prediction module (108), a power estimation module (110), an energy distribution module (112), a feedback module (114), and a control strategy module (116). The system (100) enhances the hydrofoil's energy efficiency by forecasting energy availability and demand, and dynamically adjusting power distribution. The system (100) ensures a more reliable and predictable performance for users by maintaining consistent power delivery and optimizing energy management.

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