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(57) Abstract :
A dynamic resource management system (100) for power-constrained IoT networks integrates energy profilers (102), adaptive schedulers (103), and task managers (104) for real-time task optimization. It utilizes predictive models (105), delegation protocols (122), and edge analytics (109) to reduce power usage and enhance system uptime. Communication is handled by lightweight protocols (108), and feedback circuits (110) ensure ongoing optimization. The invention extends node lifetime while ensuring critical task performance and autonomous coordination among distributed IoT devices (101).

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