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(57) Abstract :
The invention discloses an IoT-based platform for real-time forest fire detection integrating sensor nodes (101), wireless communication networks (102), processing layers (103), and an alert dissemination module (104). Each sensor node (101) is equipped with temperature, smoke, CO, and flame sensors powered by a solar subsystem (105). The platform performs edge-level filtering and cloud-based predictive analytics for accurate fire detection. Alerts are transmitted to stakeholders in real time, ensuring rapid response, scalability, and sustainability in forest fire management.

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