SMART TRACKING CONTROL

A CUTTING-EDGE TRACKING ALGORITHM DESIGNED FOR IRREGULAR TERRAINS AND BIFACIAL MODULES

SHORT DESCRIPTION

Smart Tracking Control is an advanced tracking algorithm built to maximize PV production on the real-world terrain you actually build on — not the flat surface most trackers assume. Tailored for irregular sites and bifacial modules, this intelligent system adapts each tracker's movement individually, optimizing angles while minimizing inter-row shading. For PMs, it means no more compromises between terrain and layout. For FRs, it boosts yield and improves LCOE with minimal CAPEX increase. And for O&M Managers, it's an efficiency enhancer that works autonomously and scales across fleets — no babysitting required.

EXPECTED IMPROVEMENTS

- **Up to 3% additional energy yield compared to conventional tracking — on top of the 15–25% boost from basic single-axis systems**
- **Optimized bifacial performance via dynamic angle control and albedo-aware adjustments**
- **Reduced mutual shading on sloped terrains by coordinating tracker positions site-wide**
- **Enhanced energy forecasting through integration with real-time weather and irradiance data**
- **Accelerated ROI and improved bankability by maximizing performance in complex topographies**

MAIN BENEFITS

For Project Managers:

- **Confidently design on challenging terrain without re-engineering tracker layouts**
- **Reduce commissioning risk and maximize energy output from day one**
- **Avoid last-minute performance shortfalls caused by mutual shading or orientation constraints**

For Financial Responsibles:

- **Increase energy yield without significant hardware upgrades**
- **Improve long-term revenue forecasts and investor confidence with real-world terrain optimization**
- **Strengthen project financial models through measurable production gains**

For O&M Managers:

- **Deploy a low-touch, smart control system that continuously adapts to site conditions**
- **Reduce downtime and maintenance effort linked to misalignment and overcompensation errors**
- **Standardize performance strategies across multi-site operations with one control logic**

USE CASES

A **PM** designing a 20 MW site in a hilly region deploys Smart Tracking Control to auto-adapt tracker positions by row. The system minimizes self-shading and lifts yield by 2.8%, avoiding costly grading or mechanical redesign.

An **FR** updates the financial model of a new plant using predictive yield curves from the Smart Tracking Control's simulations. The improved output projection helps secure investor approval and improves expected IRR by 0.5 points.

An **O&M Manager** sees a consistent improvement in production during cloudy conditions as the system dynamically tilts for diffuse radiation — avoiding underperformance and reducing reactive interventions across the tracker fleet.

Book your personalized discovery call here

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