TNVBF- Transformation with a Tilt: "Incorporation of small angle tilting to improve vertical bifacial array performance"

The Problem: Losses to reflection from vertical panels are most significant at times of high solar intensity around mid-day when sunlight is incident on the panel at a glancing angle.

A simple solution: The incorporation of a small degree of tilt (±15°-30°) into vertical bifacial solar arrays would allow bright mid-day sunlight to contact the panels at a more direct angle, increasing efficiency

## Better Cos(⊕) factor for Direct Rays. Less reflection from front glass surface. **Very Small Land** use Footprint **Direct Rays:** Significant Opposite Tilt in PM Reflection at Better Cos(⊕) factor **Oblique Angles** for Direct Rays. Less reflection from front glass surface. **Very Small Land** use Footprint

Slight Tilt in AM

## Benefits of this product:

- Increased energy production from overhead sunlight by more than
- Minimal impact on crop growth and shading
- Simple two-angle design, no need for advanced tracking algorithms

