



First Solar Job Description

Job Title: Development Engineer III – Performance Modeling

Reports To: Quality and Reliability Development

Job Status: Exempt

Basic Job Functions:

Develop predictive models that accurately describe performance and metastable behaviors of new device technologies. Develop accelerated life tests to parametrize such models and validate their accuracy and dependability. Use developed models to facilitate energy yield predictions, warranty analysis, and risk assessments.

Education and Experience:

- Master Degree in Applied Mathematics and Computational Science, Material Science, Solid-State Physics, Electrical Engineering, Chemical Engineering, or a related field with at least 5 years industry experience.
- Ph.D. in Applied Mathematics and Computational Science, Material Science, Solid-State Physics, Electrical Engineering, Chemical Engineering, or a related field.
- Strong programming skills in at least one of the following: MATLAB, Python, C++.

Required Skills/Competencies:

- Strong English written and verbal communications skills to ensure effective participation with interdepartmental teams.
- Building mathematical descriptions of observed physical phenomena and utilization of numerical methods in solving complex physical problems. Familiarity with global optimization methods is a plus.
- Strong background in semiconductor device physics and electro-optical characterization is preferred.
- Advanced data analytics and data manipulation skills are a plus.

Essential Responsibilities:

- Develop and parametrize models that quantitatively describe performance and degradation mechanisms of PV modules in field conditions.
- Develop efficient accelerated life test protocols to facilitate unique model parametrization.
- Validate parametrized models with laboratory and field data. Recognize metrology gaps and drive functions in the organization to implement metrology improvements.
- Use developed models in conjunction with commercial tools for energy yield assessment, warranty analysis, and risk assessment.
- Provide data-driven recommendations to management on specific changes to improve device performance and reliability.

Reporting Relationships:

- No direct reports.

Travel:

- No regular travel is required outside the First Solar work site.

05/18/2021

US Physical Requirements:

- Will sit, stand or walk short distances for up to 12 hours per day.
- Will climb stairs on an occasional basis.
- Will lift up to 51 pounds on an occasional basis, according to work instruction.
- Will lift up to 37 pounds on a frequent basis
- Will push or pull up to 27 pounds of force on an occasional basis.
- Will push or pull up to 10 pounds of force on a frequent basis.
- Required to use hands to grasp, lift, handle, carry or feel objects repetitively on a frequent basis.
- 20/40 vision in each eye (with or without correction) and the ability to distinguish between red, yellow and green is required.
- May reach above shoulder heights and below the waist on a frequent basis.
- May stoop, kneel, or bend, on an occasional basis.
- Must be able to comply with all safety standards and procedures.
- Ability to wear personal protective equipment is required (including but not limited to; steel toed shoes, cut resistant gloves, jackets, aprons &/or arm guards, safety glasses, hearing protection).
- All associates working on the production floor may be required to wear a respirator at any given time and thus, the ability to wear a respirator is a condition of employment and continued employment (requires little or no facial hair).

Potential candidates will meet the education and experience requirements provided on the above job description and excel in completing the listed responsibilities for this role. All candidates receiving an offer of employment must successfully complete a background check and any other tests that may be required.

Equal Opportunity Employer Statement: First Solar is an Equal Opportunity Employer that values and respects the importance of a diverse and inclusive workforce. It is the policy of the company to recruit, hire, train and promote persons in all job titles without regard to race, color, religion, sex, age, national origin, veteran status, disability, sexual orientation, or gender identity. We recognize that diversity and inclusion is a driving force in the success of our company.