



Solar Junction

The Company: Solar Junction Corporation is privately funded and produces the world's most efficient commercially available solar cells for terrestrial Concentrated Photovoltaic (CPV) and space applications.

Location: San Jose, CA (Headquarters)

Position Title: Epitaxy Scientist

Essential Duties and Responsibilities include the following:

- Develop advanced dilute nitride materials for best-in-class multi-junction solar cells for space applications
- Collaborate closely with devices design engineers, MBE epitaxy growers, test and process engineers to realize highest-efficiency solar cells in the industry using hybrid MBE/MOCVD epitaxy
- Create and optimize MBE epitaxial growth structures, recipes, and process for the epitaxial growth of high quality dilute nitride semiconductor materials for optoelectronic devices such as lasers and photodetectors
- Specify device processing and testing, then analyze data to iterate the epi design for further optimization
- Design, plan and execute Design of Experiments (DOEs) and analyze results
- Ensure manufacturability of developed epi and take leadership role in transferring the epi design to production thru the NPI process
- Define and implement MBE tool and process quality controls
- Support the Company's technology and product roadmaps by developing epitaxial materials for opto-electronic devices

Education / Certification:

- Minimum requirement is M.S., but Ph.D. is highly preferred, in Electrical Engineering, Materials Science, or Applied Physics with strong emphasis on and expertise in dilute nitride materials
- Minimum 4 years of experience in epitaxial growth of dilute nitride materials using Molecular Beam Epitaxy (MBE) tools
- Strong foundation in compound semiconductors

Requirements:

- Expert knowledge and hands-on experience designing and growing dilute nitride compound semiconductor materials for high-efficiency, multi-junction solar cells
- Solid background in compound semiconductors physics, devices and applications
- Strong knowledge of and proven experience in molecular beam epitaxy (MBE) process optimization for solar cells and layer structure design
- Strong understanding of MBE hardware, operation and components, including system troubleshooting
- Hands-on epitaxial growth experiences on Veeco MBE systems
- Extensive hands-on experience in structural, optical and electrical characterization of multijunction solar cells

- Experience with epiwafer characterization, including PL, Hall measurement, SEM & CL, EDX, AFM, C-V, ECV, and X-ray measurements
- Able to take dilute nitride-based device development roadmaps and convert them into actionable epi process development and/or improvement plans, and then drive these plans to completion
- Experience in modeling 4J solar cell devices, analyzing simulated and experimental data, and then tying it back to epi processes
- Ability to work in a close-knit collaborative team environment is a must.
- Solid communication skills and the ability to work effectively in a fast-paced team environment
- Willing to travel between company locations in San Jose, CA and Phoenix, AZ

If interested, please send your CV/resume to jobs@sj-solar.com with “MBE Epitaxy Scientist” in the subject line.