PDF is seeking an experienced Electrical Engineer to join the PDF R&D team, who is responsible for delivery of E-beam columns in our e-Probe systems. The Engineer is an organized and highly motivated team player with strong initiative and communication skills and possesses the drive to deliver quality results on time in a dynamic, multi-discipline, intensive and highly productive small team environment.

The position is located in San Jose California area

Job Description

- Work closely with PDF internal engineering team and with our customers towards delivery of ebeam columns for eProbe inspection systems that are used at 300mm semiconductor wafer fabs to implement PDF's Design-for-Inspection (DFI™) methodology used in yield ramp and manufacturing control.
- Simulate existing column designs under their full space range of operation. Match simulations to experimental data, refine model parameters of the simulation, and refine models of ebeam source.
- Use simulation to drive new modes of operating the column e.g. with added lenses and deflectors.
- Design and simulation in 3-D packages for non-rotationally symmetric column designs including those with Wien filters
- Design of and simulation of high-precision energy filters for enhancing voltage contrast in inspection columns
- Hands-on work with on PDF's Ebeam tool for column characterization

- Required Skills and Experience
  - Masters/PhD in Electrical engineering, physics, material science, or similar engineering field
  - Strong experience in e-beam optics simulation preferably with Munro's code
  - Experience in any scripting or programming language (e.g. Python, Java, C#, C++)
  - Experience with any data analysis package (e.g. Excel, MATLAB, R, JMP)
  - Background in creating efficient experimental DOEs and their analysis such as with response surface methodology
  - Good analytical and engineering skills
  - Good written and verbal communication skills
- Other desirable Skills and Experience
  - Experience or familiarity with 300mm semiconductor IC manufacturing
  - Experience or familiarity with semiconductor capital equipment, especially ebeam and ultra-high vacuum equipment.
  - Experience specific to ebeam 'inspection' columns and, even more so, in 'voltage contrast inspection' column is very desirable.
  - Hand-on experience in bringing up new ebeam columns, ebeam guns, ebeam electronics and ebeam test fixtures for characterization

- Willingness to travel to (up to 20%) to other client sites in Asia (Korea and China) to troubleshoot/support column issues at field sites

Please send resumes to: loran.barnett@pdf.com with Optics Simulation Engineer in the subject line.