

**ProTom International**

Job Title: Accelerator Physicist

Initial Date: 1/25/2011

Location: Boston, MA area

Status: FT

Department/Unit: Technical Operations

Reviewed By: S.Spotts/CEO

Reports To: CTO

Revised: 9/26/11

Summary:

Under the direction of the Chief Technical Officer, the accelerator physicist will interact with a focused team of engineers and physicists in the development of a variety of subsystems related to ProTom International's *Radiance 330* proton therapy system.

Principal Responsibilities:

- Participate in the design of beam optics
- Assist in the development and implementation of beam line diagnostics, hardware and software
- Develop beam injection and extraction simulations including space charge effects
- Write beam control algorithms
- Perform development work on beam scanning and focusing effects
- Create software simulations for development and analysis and control of the accelerator systems
- Develop beam tunes and tuning algorithms to meet operational requirements
- Interface with technical and clinical staff at client site to educate client on operation of the *Radiance 330*; and ensure compliance with client site QA and physics policies and procedures
- Develop tests and conduct measurements required to evaluate and improve beam delivery
- Work closely with ProTom's technical partners and OEMs to ensure beam quality and beam delivery precision
- Participate in development of QC systems

Qualifications:

- The successful candidate should have at least an M.S. or equivalent in physics
- Minimum of 2 years demonstrable experience in some or all of the principal responsibilities

Skills/Abilities/Competencies:

- Sound working knowledge of physics principles behind the operation of the synchrotron and beam lines, including aspects of beam optics, beam dynamics
- Demonstrable hands-on capability in the operation and component development of accelerator systems considered a plus

Mental/Physical Skills:

- Excellent interpersonal skills
- Ability to work in a small team
- Ability to work with client's technical and clinical staff
- Self motivated
- Takes initiative and responsibility for professional growth and education/training

Working Conditions:

- Work is performed mainly in and around an accelerator vault, and with no natural light
- Systems to be worked on include accelerator, beam line, gantries, patient positioners, imaging systems, beam delivery nozzles and associated subsystems
- Approximately 25-50 % travel required initially; traditionally concentrated at client site, post installation
- Working flexible hours and hours in excess of 40 hrs per week will be required, particularly during install, testing and commissioning at client site

Fiscal Responsibilities:

Responsible for using ProTom resources in an efficient manner and identifying opportunities for savings; participates in operating and capital budget preparation at direction of CTO