

# Physicist

## Position Description

<b>Employment Type:</b>	Full Time
<b>Term:</b>	Permanent
<b>Group:</b>	Product
<b>Band:</b>	Band 2 to 5, commensurate with experience and role
<b>Location:</b>	QuantX Labs, Lot Fourteen, Level 2 Space Lab, Frome Road, Adelaide
<b>Reports To:</b>	Physics Team Lead
<b>Direct Reports:</b>	None

## Position Overview

At QuantX Labs, you'll be an integral part of an emerging, world-leading deep-tech product company with a strong and growing pipeline of work across Space, Defence and Commercial sectors. As a small, high impact team, QuantX Labs offers the opportunity to contribute directly to significant and globally relevant products, where you make impact on sovereign capability and technologies that matters on a global stage.

You will play a hands on role in the development and delivery of next generation quantum and precision measurement products, working with cutting edge technology from concept through to product and deployment. This is a rare opportunity to collaborate closely with internationally recognised experts, and to see your efforts translated into advanced products used by global customers at the forefront of innovation.

As a Physicist, you play a key role in the design, development, and production of our QuantX products. Working within a multidisciplinary team environment, the role focuses on leading and supporting the physics design and integration of products throughout the full product lifecycle, ensuring the effective realisation of the core physics functions and resultant system performance.

## Duties and Responsibilities

<b>Physics</b>	<p>The following technical duties are expected of the role, appropriate to the employee's role seniority and experience:</p> <ul style="list-style-type: none"> <li>• Design and implement experimental setups to research, measure and validate physical principles and product performance</li> <li>• Perform precise physical assembly of experimental apparatus, ensuring alignment, cleanliness, and stability</li> <li>• Conduct environmental sensitivity testing of products and assemblies</li> <li>• Characterise system performance through a combination of experimental and analysis techniques</li> <li>• Perform fault isolation and diagnostics to identify root causes</li> </ul>
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	<ul style="list-style-type: none"> <li>• Develop data acquisition systems and scripts for automated measurement collection and instrument control</li> <li>• Create prototype software tools supporting experimental operation, data capture, and visualisation</li> <li>• Apply theoretical and numerical modelling to predict system behaviour and guide experimental design</li> <li>• Analyse experimental data and validate models against measured results</li> <li>• Maintain lab safety practices and ensure compliance with safety processes</li> <li>• Collaborate with systems, mechanical, electronics, software, and production teams for integrated designs</li> <li>• Author and maintain quality technical documentation</li> <li>• Lead and support physics and system design reviews</li> </ul>
<b>Other Assigned Duties</b>	<ul style="list-style-type: none"> <li>• Contribute to estimation, scheduling, and resource planning for technical work</li> <li>• Lead and support the definition and architecture of products</li> <li>• Self manage work and effectively communicate status with stakeholders</li> <li>• Identify physics and system technical risks and develop mitigation strategies</li> <li>• Engage with customers and suppliers to clarify technical needs and manage delivery</li> <li>• Provide technical expertise and advice in support of business activities</li> <li>• Technically lead and support execution of projects</li> <li>• Mentor, guide and support the development of team members</li> <li>• Contribute towards business winning and customer success activities</li> <li>• Comply with all company policies, procedures, and governance requirements, including safety, security, quality, and confidentiality obligations</li> <li>• Uphold the organisation’s values, ethical standards, and commitment to excellence</li> <li>• Other reasonable duties as assigned</li> </ul>

The responsibilities as specified above may be altered in accordance with the changing requirements of the position.

## Experience and Skills

<b>Experience</b>	<ul style="list-style-type: none"> <li>• Experience in one or more of the following:             <ul style="list-style-type: none"> <li>○ Precision optical spectroscopy</li> <li>○ Atomic clock development</li> <li>○ Laser frequency stabilisation</li> <li>○ Modelling light-atom interactions</li> <li>○ Non-linear optics</li> <li>○ Optical frequency combs</li> <li>○ Laser development and measurements</li> </ul> </li> <li>• Understanding of physics experimental and theoretical principles across the lifecycle, applied to the product research and development</li> <li>• Ability to analyse complex systems and derive physics requirements</li> <li>• Working cross functionally with technical teams, including physics, software, electronics, mechanical, and production teams, to ensure cohesive product development and integration</li> </ul>
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	<ul style="list-style-type: none"> <li>• Utilisation of technical tools relating to research, design and analysis</li> <li>• Technical leadership and delivery of product development and production projects</li> <li>• Technical background in product development, analysis and production</li> <li>• Knowledge of systems engineering principles</li> <li>• Knowledge of product safety, security and assurance is desirable</li> </ul>
<b>Skills</b>	<ul style="list-style-type: none"> <li>• Professional integrity, accountability, and attention to detail</li> <li>• Effectively work with appropriate autonomy, escalating issues where required</li> <li>• Effectively adapt to evolving product requirements, product development environments</li> <li>• Problem solving and decision making, balancing performance, risk, schedule and cost</li> <li>• Planning, work management and prioritisation of duties</li> <li>• Clear communication of technical concepts to both technical and non-technical stakeholders</li> <li>• Written skills for producing clear and concise technical documentation</li> <li>• Effective collaboration and knowledge sharing across teams</li> <li>• Commitment to quality, safety, and continuous improvement</li> </ul>
<b>Other</b>	<ul style="list-style-type: none"> <li>• PhD or Masters in atomic or laser physics, or other related field</li> </ul>