



Science & Technology
Facilities Council

UK Research
and Innovation

Quantum Sensors for Fundamental Physics

Strategic Priorities Fund (SPF)

Jason Green

Background

- 5 years of national QT programme - rapid advances in quantum technology, computing and Metrology in the UK
- Tools are now at a stage which could allow them to be used, and further developed, in fundamental science
- Despite the potential, quantum sensing methods are not currently, widely used in the physics community
- Potential areas for exploration include the search for dark matter, gravitational waves research and many-body physics plus others
- Leads to a new programme of research
- Is funding available?

Strategic Priorities Fund - SPF

Support for high quality R&D priorities which would otherwise be missed

- Multi-disciplinary programmes identified by researchers and businesses at the cutting-edge of research and innovation
- National strategic priorities and emerging technologies
- Strategic cross-cutting R&D areas aligned with Government priorities



SPF Activity

- Bring together the STFC and EPSRC communities to tackle challenges and provide the opportunity to utilise new methods in quantum
- Be inherently interdisciplinary combining the UKs world leading physics community with the equally ground breaking quantum information scientists
- A programme aligning with the governments science priorities in fundamental science
- A programme capable of attracting the best creative, original, young experimentalists and theorists

Why?

- To allow the UK to retain its position as a leader and partner of choice in this area
- To help deliver solutions to the big science questions and technology developments through the QT hubs
- To enable this through collaborative R&D funding streams which give added value
- To attract and train young scientists in a multidisciplinary area who will deliver research and innovation for the benefit of the UK
- To be the bedrock for the national QT programme and its future programme of work