

Quantum Computing for Earth Observation: Current Perspectives and Future Directions

Wednesday 19 November 2025 10:30 (30 minutes)

Quantum computing is emerging as a powerful paradigm for advancing Earth observation, enabling novel approaches to data analysis, image reconstruction, and modeling of complex geophysical processes. Recent research has demonstrated how quantum machine learning and hybrid quantum–classical architectures can potentially enhance the efficiency and interpretability of satellite data workflows. This talk outlines the current state of quantum methods applied to Earth observation and discusses the role of open collaboration and community-driven development in accelerating progress. Particular attention is given to how these advancements can be extended toward broader Earth system and climate modeling applications, fostering a convergence between quantum technologies and environmental science.

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