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Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Introduction -- Photon Pair Generation via Four-Wave Mixing in Photonic Crystal Fibres -- Numerical Modelling of Multiplexed Photon Pair Sources -- Design, Fabrication, and Characterisation of PCFs for Photon Pair Generation -- Construction of an Integrated Fibre Source of Heralded Single Photons -- Characterisation of a Multiplexed Photon Pair Source -- Conclusion.
Sommario/riassunto	This clearly written thesis discusses the development of a highly innovative single-photon source that uses active optical switching, known as multiplexing, to increase the probability of delivering photons into a single mode. Improving single-photon sources is critical in advancing the state of the art in photonic quantum technologies for information processing and communications.