Testing fully quantum repeaters on a quantum internet

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A future quantum internet connects small quantum processors by long distance quantum communication. Possibly the most well known application of quantum communication is quantum key distribution, but many other interesting applications already exist. Here, we propose stages towards the development of a full blown quantum internet, where each stage is distinguished by the successively larger type of applications that it supports. We continue by presenting a test to assess the performance of quantum repeaters for transmitting qubits, rather than key bits, which is required by many protocols.