

ABSTRACT

An apparatus for generating a specified number of photons whose generating time is known, and further an apparatus for
5 generating a specified number of photons in the known schedule are provided. The particularly important specified number is 1 and it is able to be applied to quantum cryptographic communication. The apparatus comprises a photon pair source for generating a photon pair that comprises a signal photon and an idler photon and correlates with
10 the generating time, photon number detectors for detecting the photon number of idler photons, a controller for controlling the gate device in conformity with the information on the photon number from the photon number detector, and a gate device for controlling the emission of the signal photon.