

Fig. 1. Basic quantum key distribution protocol.

- Alice sends a random sequence of photons polarized horizontal (↔), vertical (‡), right-circular (♣)
  and left-circular (♣);
- 2. Bob measures the photons' polarization in a random sequence of bases, rectilinear (+) and circular (○).
- 3. Results of Bob's measurements (some photons may not be received at all).
- 4. Bob tells Alice which basis he used for each photon he received;
- 5. Alice tells him which bases were correct;
- 6. Alice and Bob keep only the data from these correctly-measured photons, discarding all the rest.
- 7. This data is interpreted as a binary sequence according to the coding scheme  $\leftrightarrow = \subsetneq = 0$  and  $\uparrow = \Rightarrow = 1$ . **from [BBBSS92]**