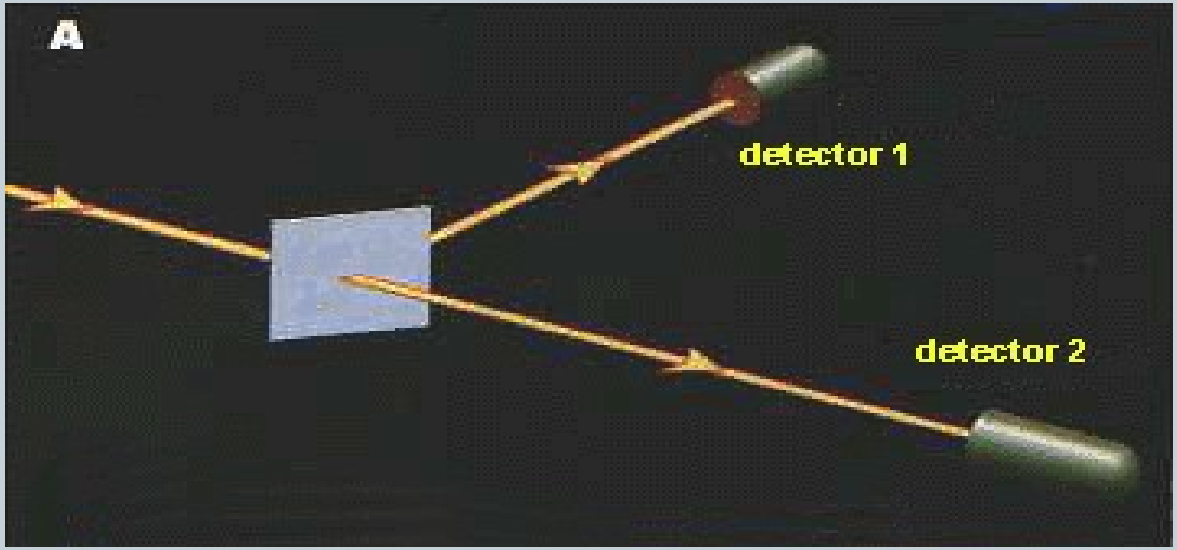
Quantum Computing

Quantum Computing

- Digital computers can have only 1 state
- Rely on 0 or 1, depending on voltage
- Can have multiple state at one time

Example

- Reflecting photons off half -silvered mirror (deflects half the light)
- Where do you think the photon landed?



Quantum Computing

- Rely on quantum physics
- Theoretical
- Qubit instead of bits
- Basis states

Quantum Computing

- Instead of just 0 or 1, 0 or 1 or combination of both or between 0 and 1
- Traditional computers allow computation on only one set of numbers at once
- 2 qubit system, possible to compute on 4 values at once, 3 qubit system, 8 values once, 4 qubit,16 values and so on.(2^n computation n=number of qubits)

Quantum Computing

- Exponentially faster than conventional computers
- Not well suited for word processing or email
- Ideal for cryptography, modeling and indexing
- Will be able to solve NP complete problem.

Quantum Computing

- Digital computers –serial results even with threads
- Quantum- truly concurrent