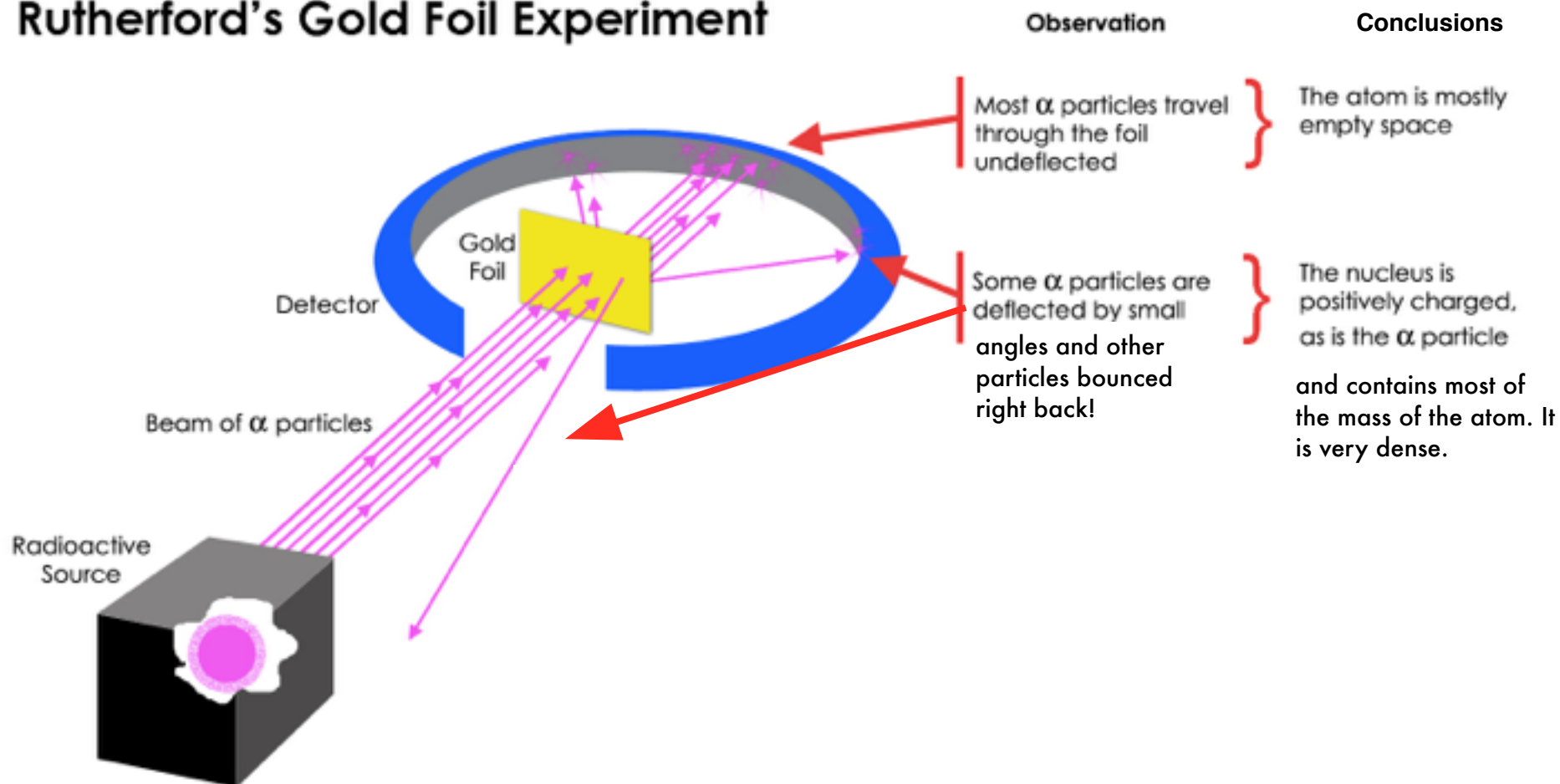


Rutherford's Gold Foil Experiment



Rutherford concluded two major things from the observations that he made in his Gold Foil Experiment. These conclusions took a long time to come up with, he actually worked on this theory for more than 2 years! The first observation that led to a conclusion was the fact that most particles went right through the gold foil with no problem. The conclusion that he made from this observation was that the atom must be made mostly of empty space. The second major observation was that **SOME** of the particles were deflected and **OTHER** particles bounced directly back. This meant that there had to be something in the way of the particles. Rutherford decided that there must have been some **POSITIVELY CHARGED, SMALL, but DENSE** sphere in the middle of the atom. He called this sphere a "nucleus" and decided that it must be where all of the positive particles in the atom are located.