NANO 703/703L - Quiz 2

Match the following terms with their descriptions by assigning the correct letter from below:

Terms

a.____	forward	h.____	ionization
b.____	Bragg	i.____	elastic
c.____	form factor	j.____	incoherent
d.____	Rutherford	k.____	Bremsstrahlung
e.____	Moseley	l.____	structure factor
f.____	differential	m.____	screening
g.____	weak-phase object approximation	n.____	Schrodinger

Descriptions

A. A continuous spectrum of X-rays produced by acceleration of electrons.

B. Assumes that the only effect of scattering is a slight change in phase.

C. Type of scattering in which kinetic energy is conserved.

D. Observed that the energies of characteristic X-rays are simple functions of atomic number.

E. A sum of scattering amplitudes times phase factors over the atoms in a crystal's unit cell.

F. Another name for electron scattering amplitude of an atom.

G. Derivative of the total cross-section with respect to solid angle gives this type of cross section.

H. Developed an equation for quantum-mechanical particles/waves.

I. Most electrons travel in this direction after inelastic scattering processes.

J. Argued that high-angle scattering was evidence of a heavy, point-like atomic nucleus.

K. Can result in emission of either characteristic X rays or Auger electrons.

L. Developed a simple law for diffraction from crystal planes.

M. Reduction in electrostatic potential of an atom due to its orbital electrons.

N. This type of scattered electrons does not have the same energy as the incident beam.