

- Identify two specific features of atomic structure that can only be explained by reference to the wave-like nature of electrons. Give reasons.

Electrons occupy certain stable “orbits” that correspond to the standing waves obtained by solving the Schrödinger Equation. Each solution (orbital) corresponds to a different allowed energy level. As a consequence of this;

- **electrons do not spiral in towards the nucleus despite the electrostatic attraction between them**
- **the light emitted by excited atoms is a series of discrete spectral lines corresponding to the energy differences between the allowed energy states.**