

30 The energy levels in a hydrogen atom are shown.

energy level n	energy/eV
1	-13.6
2	-3.4
3	-1.5
4	-0.9
5	-0.5

A red spectral line known as the hydrogen alpha-line has been of great value to astronomers. Its wavelength is 656.28 nm.

Which level changes gives rise to the hydrogen alpha-line?

A 2 to 1

B 3 to 1

C 3 to 2

D 5 to 2