

It is not strictly true that the energy levels of the hydrogen atom depend only on the quantum number n , as implied by Eq. (6). We saw in discussing the Bohr theory (page 86) that certain levels must be split into two or more

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Fig. 3. Photographic representation of the electron probability density distribution $\psi^*\psi$ for several energy eigenstates. These may be regarded as sectional views of the distributions in a plane containing the polar axis which is vertical and in the plane of the paper. The scale varies from figure to figure. [From "Principles of Modern Physics" by R. B. Leighton. Copyright McGraw-Hill, New York, 1959. Used by permission of McGraw-Hill Book Company.]

