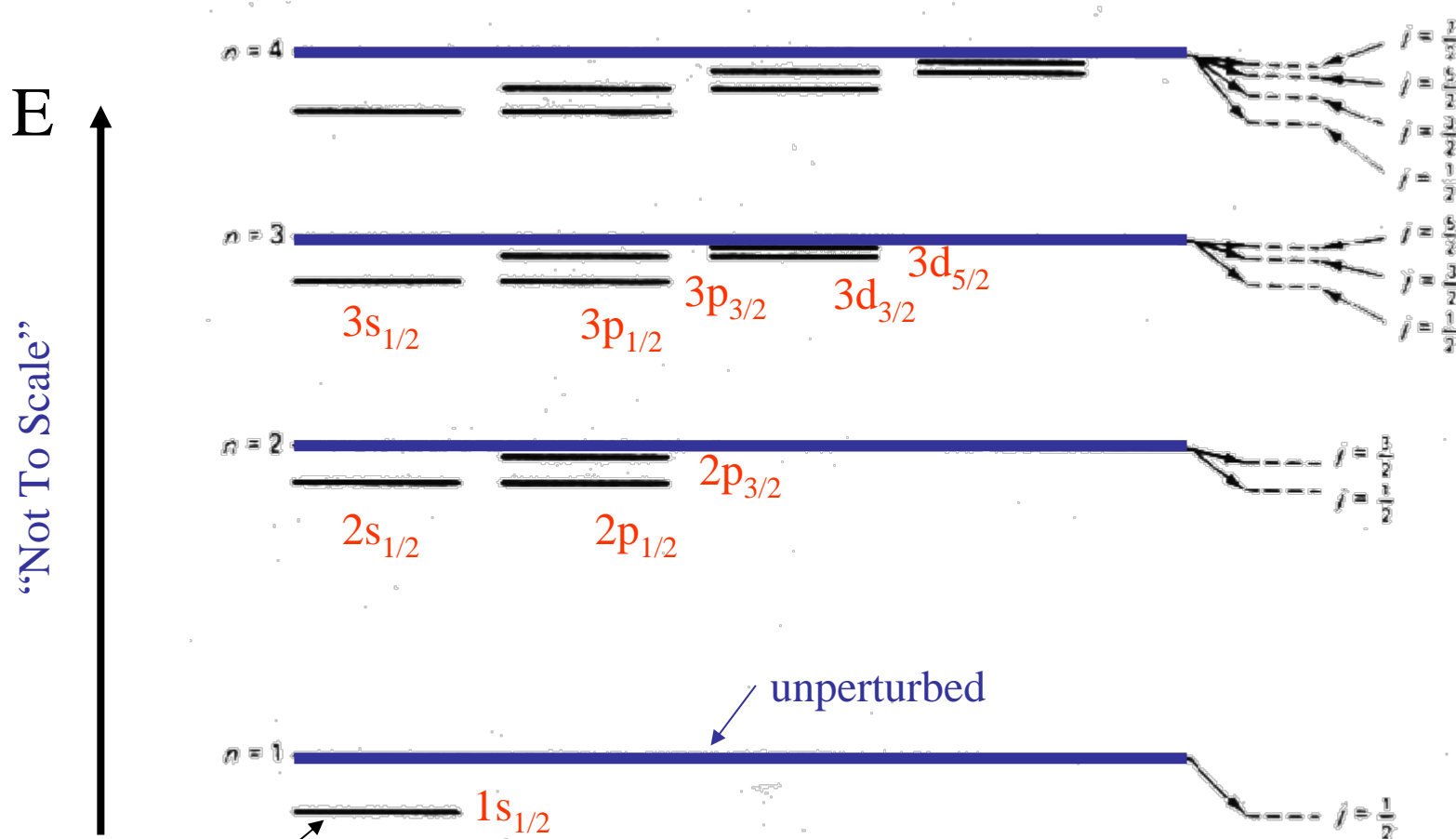


Spin-Orbit + Relativistic Splitting in the Hydrogen Atom Energy Eigenvalues



Perturbed with $\vec{S} \cdot \vec{L}$
and the relativistic correction

Notation: $n\ell_j$

$$\Delta E = \frac{\alpha^2 |E_n^0|}{n^2} \left[\frac{3}{4} - \frac{n}{j + \frac{1}{2}} \right]$$

Fine Structure Formula