

## Re: allowed transitions

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*Source:* <http://sci.tech-archive.net/Archive/sci.physics/2007-06/msg02385.html>

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- *From:* "Androcles" <[Engineer@xxxxxxxxxxxxxxxxxxx](mailto:Engineer@xxxxxxxxxxxxxxxxxxx)>
  - *Date:* Fri, 29 Jun 2007 18:55:48 GMT
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"The old geezer" <[JYOB@xxxxxxx](mailto:JYOB@xxxxxxx)> wrote in message  
[news:1183140364.195078.55870@xx](mailto:news:1183140364.195078.55870@xx)  
: Hey folks, give me a little feedback on this. The books I've read all  
: indicate that atomic fine structure consists only of two energy  
: levels. However, I have been given reason to believe that for most  
: excited states, there are more than two levels. Is this the case? How  
: would I determine the number of levels in fine structure? Also, what  
: are the selection rules for fine structure to fine structure  
: transitions? Thanks.

Start here:

<http://home.comcast.net/~mcculloch-brown/astro/LO-P-NA.JPG>

Although not clear in the image, the yellow line is doubled.  
If you do not have a spectroscope, a crude one is easily  
simulated by holding a CD-ROM or DVD horizontally and  
in contact with your upper cheek, just below the eye.  
There is no substitute for seeing the real thing for yourself.

<http://www.astronomy.ohio-state.edu/~pogge/Ast161/Unit4/HandSpec/index.html>