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Course: **8.421 - AMO I**  
Problem set: **#4**  
Due: Friday, March 5, 2022.

**1. Sum rule for fine structure**

- (a)
- (b)
- (c)

**2. Atoms with two valance electrons: From  $LS$ -coupling to  $jj$ -coupling.**

- (a)
- (b)
- (c)
- (d)
- (e)