

3.091 Solid State Chemistry: Week 17

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Progress Update

Over the past week I have:

- 1 Worked on the final exam.

Example Problem (Statement)

Problem: Use the following data to calculate the average valence electron energy (in MJ/mol) of carbon and fluorine: Ionization energy of:

- 1 2s subshell for C: 1.72 MJ/mol
- 2 2s subshell for F: 3.88 MJ/mol
- 3 2p subshell for C: 1.09 MJ/mol
- 4 2p subshell for F: 1.68 MJ/mol

Example Problem (Solution)

Solution:

- 1 AVEE Carbon = $1.72 \cdot 2/4 + 1.09 \cdot 2/4 = 1.405 \text{ MJ/mol}$
- 2 AVEE Fluorine = $3.88 \cdot 2/7 + 1.68 \cdot 5/7 = 2.308 \text{ MJ/mol}$