

## Lecture 17, Feb 18, 2022

### Intermetallic Compounds

- Intermetallic compounds have no solid solubility
- They exist as lines on a phase diagram, not an area due to stoichiometry (composition of the compound is fixed)
  - Lines can have thickness due to departures from the stoichiometry from e.g. vacancies

### Invariant Reactions

- Eutectic: Liquid transforms into two solid phases
  - -ic suffix involves a liquid
  - $L \rightleftharpoons \alpha + \beta$
- Eutectoid: One solid phase transforms to two other solid phases
  - -oid suffix means solid phases
  - $S_1 \rightleftharpoons S_2 + S_3$
- Peritectic: A solid and a liquid transform into a second solid
  - $\gamma + L \rightleftharpoons \varepsilon$