

Exercise 4.3-1

Quick Questions to

4.3 Infrastructure

Here are some quick questions:

- "Cleanroom class **100**" means roughly....?
- Describe the effects of *particles on*, and *contamination in* a chip.
- The electrically crucial area of an integrated transistor is **(50 × 300 × 300) nm³**. The lattice constant of **Si** is roughly **0.5 nm**; there are atoms per elementary cell. An **Au** concentration of **1 ppb** "kills" the transistor.
 - How many **Au** atoms can you tolerate in your transistor?
 - If you touch a gold ring and **1** out of **1 billion** surface atoms gets stuck on your finger - how many, roughly, are now on your skin?