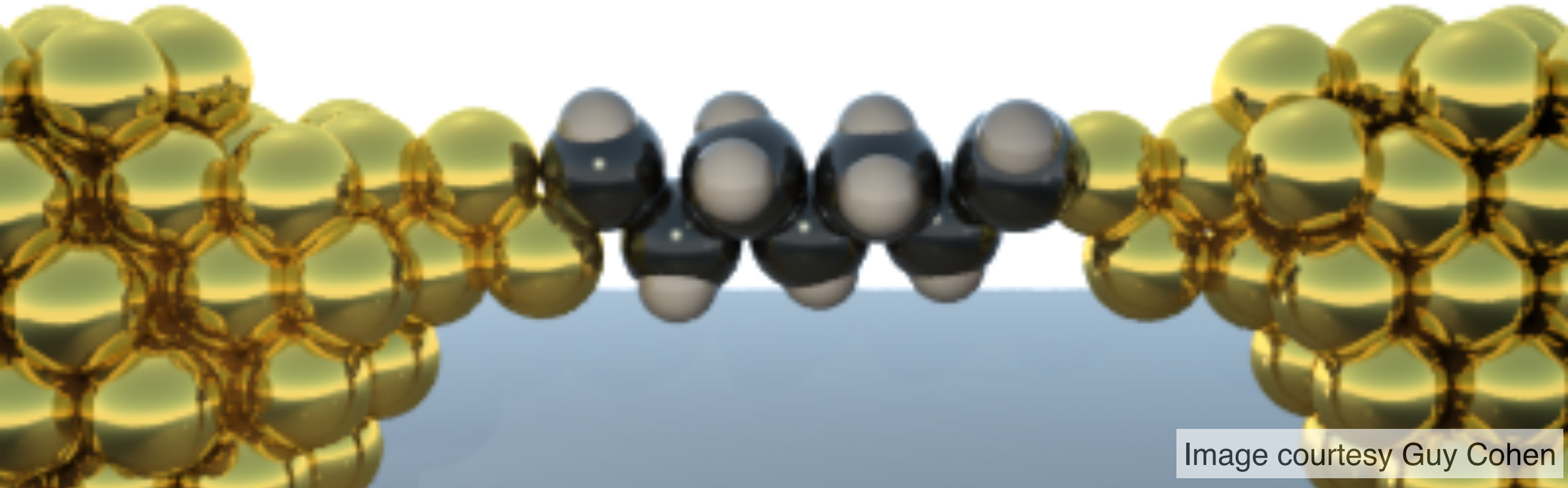
Vibrational Effects

Overly simplistic: think of it as a “loose wire”

Real systems: current can decrease, increase, show switching

Resonance ⇒ exact energies matter (anharmonicity?)



Background material

Fermions: Particles (e.g. electrons) with certain traits

- Wavefunction antisymmetric for particle exchange
- Pauli exclusion principle
- Boltzmann distribution for noninteracting: $Q = \prod_k \left(1 + e^{-\beta(\epsilon_k - \mu_k)}\right)$