

EECS 277C Nanotechnology

Problem Set #2

Due Friday, May 6, 2005

Calculate the change in the Gibbs free energy for a two-island circuit with no gates. (I.e. three tunnel junctions in series) for all possible electron transitions. (Left lead to island 1, island 1 to left lead, island 1 to island 2, island 2 to island 1, island 2 to right lead, right lead to island 2). Describe the conditions under which current can and cannot flow from the left lead to the right lead.