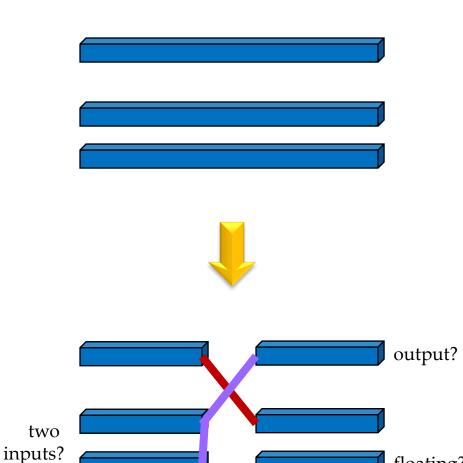
VLSI CHIP REPAIR (FOCUSED ION BEAM (FIB))

EEC 116, B. Baas 197

Focused Ion Beam (FIB) Repair

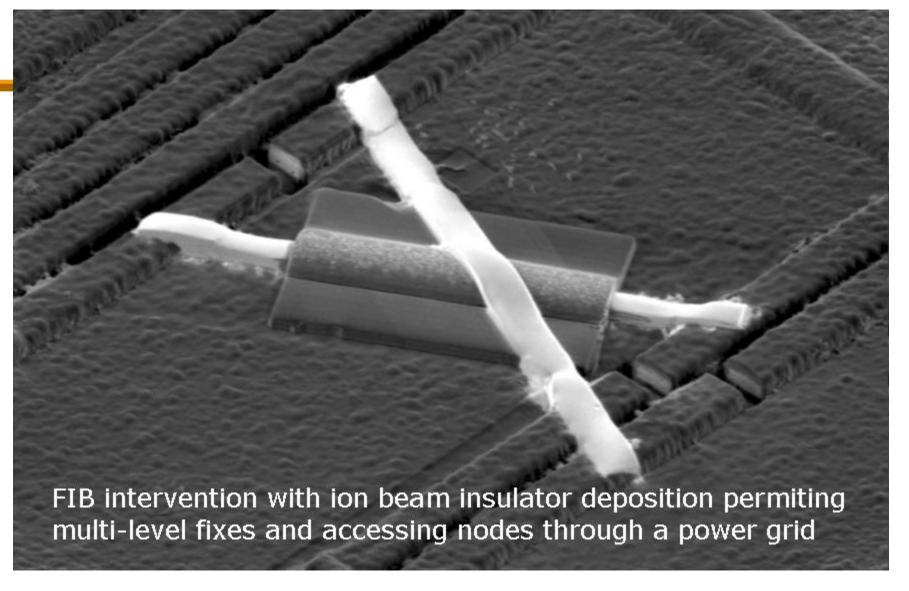
- Some key FIB operations:
 - "Drilling down" through layers
 - Cutting specific wires
 - Laying down insulating materials
 - Laying down wires



floating? output?

EEC 116, B. Baas 198

Focused Ion Beam (FIB) Repair



http://www.nanoscopeservices.com/Nanoblog/?cat=39

 [&]quot;NanoScope adds a Nano-Surgery flavour to NMI IP Integration Networking Event"

Focused Ion Beam (FIB) Repair

- Specifications from EAG Laboratories
 - Employs a focused Ga+ ion beam to image, etch, and deposit materials
 - 4–5 nm resolution
 - approx. 20 nm accuracy
 - Can deposit tungsten, platinum, or silicon dioxide with appropriate gas chemistries
- Looks like approx. 12 metal pitches in 15 μm → lambda approx. 0.18 μm which implies a 0.35 μm technology

