APPS: Solid state physics: energy states

Integrated circuits: assigning blocks to chips to minimize interconnects

Memory chips: alpha particles flip bits

Microprocessors: cell multiprocessor defective

Memory chips: pattern sensitivity

Embedded processor: failed specialized I/O functions—sell as different chip model

Bitmapped one-character display: how many characters displayed by dot patterns

Internet: number of routing paths

Cell phone: bits flipped

Audio recording: gaussian background noise

Pattern recognition: noise added to image

Vector quantization: choice of pattern vectors

Intel math coprocessor error: time until error found by customers

Speech recognition: Bayes' theorem, P(Word | Sound)

Speech recognition: Language model for prior probability

Process scheduling (manufacturing or microprocessor): # ways to order tasks

Time to failure: probability of failure path calculations

Electric company: # customers is random # dependent on temperature/time of day

Stochastic signal processing: multiply with AND gate and random 0's and 1's

Channel capacity: theoretical maximum bit rate for modem

Process control: using control charts to determine when system out of control

Risk analysis: probability of system failure (such as space shuttle)

Data interpretation: does CO_2 from energy sources correlate with global warming?