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## **tLIFTING : A Multi-level Delay-annotated Fault Simulator for Digital Circuits**

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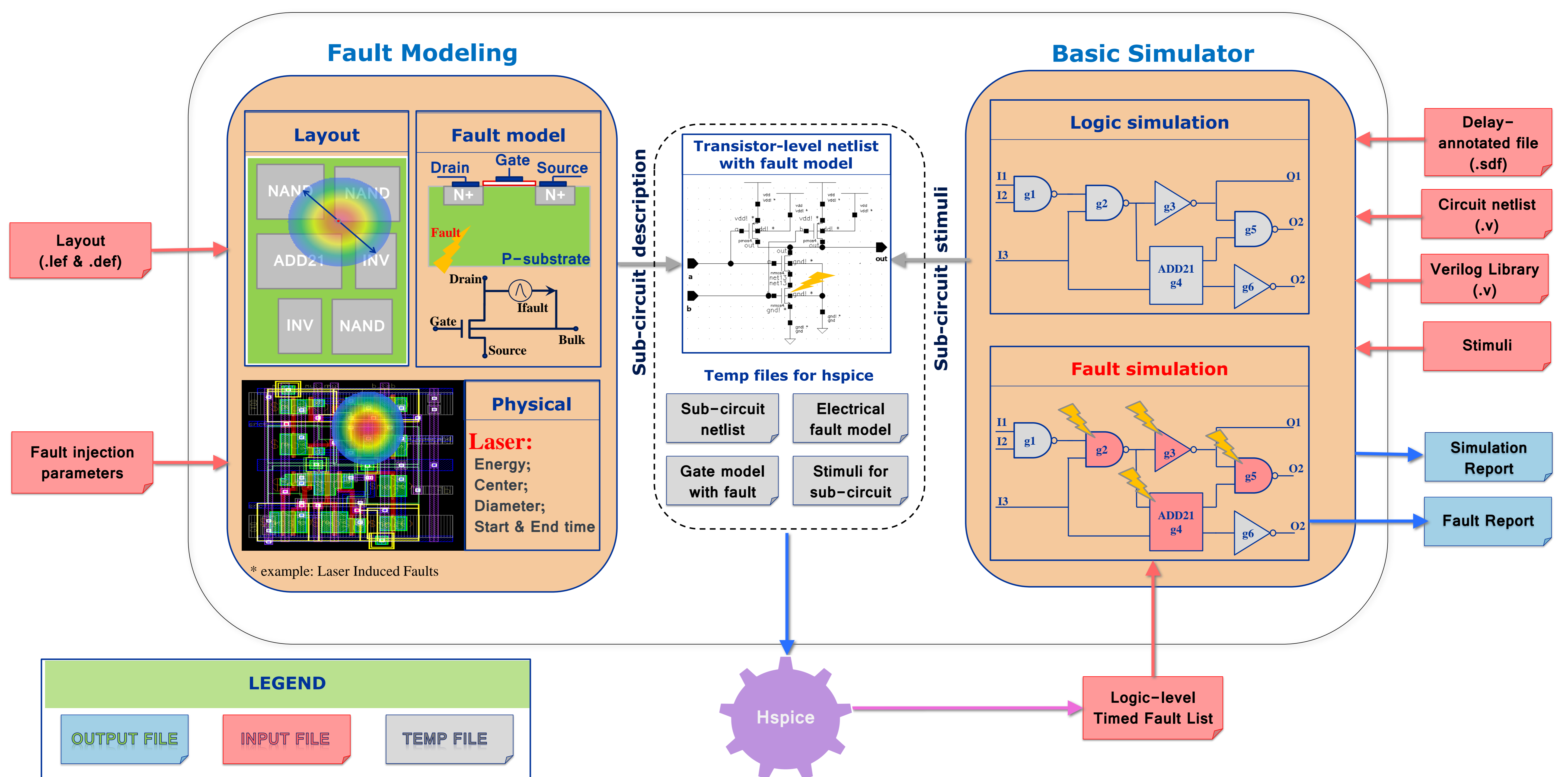
## Characteristics

- **Mixed-mode multi-level simulation:**
  - 0-delay gate-level
  - delay-annotated gate-level
  - transistor-level
- **Fault types:**
  - Single/Multiple Event Transient (SET/MET)
  - Single Event Upset (SEU) / Multiple Bit Upset (MBU)
  - Stuck-at
- **Electrical behavior modeling**

## Applications

- **Fault simulation:**
  - Single/Multiple Event Transient (SET/MET)
  - Single Event Upset (SEU) / Multiple Bit Upset (MBU)
  - Stuck-at
- **Secure circuits: fault attacks**
  - Fault attacks ( Laser, EM, ...)
  - Evaluation of countermeasures
- **Reliability evaluation**

## ARCHITECTURE of tLIFTING FAULT SIMULATOR



## MULTIPLE LEVEL FAULT SIMULATION PROCESS

