**APPLICATIONS OF ANDERSON’S PUF IN REAL LIFE**

**APPLICATION 1: ACTIVE HARDWARE METERING**

We can give an IP Core PUF Design to the consumers that can be activated only by a unique passkey provided by designer. To gain post fabrication control, the designer embeds a lock and a PUF (usually with a weak PUF with ECC to improve its reliability) in the circuit at a higher level of abstraction before graphics database system file of the circuit layout generated for the foundry to produce the contracted number of IC’s. The challenge supplied by the designer is given to the IP core chip and he results from the embedded PUF’s are collected by the foundry and sent back to IC designer for authentication. For each successfully authenticated IC the designer selects a response to compute a passkey to activate the chip.

The locking mechanism needs to be designed in such a way that the passkey used to activate the IP can only be generated by the designer based on response of the embedded PUF. The consumer cannot unlock the IP without he authorization of the designer even if we can measure the CRP’s.

**APPLICATION 2: DUPLICATION OF DEVICES**

Duplication of devices cannot be done as we give a PUF device placed on to the FPGA Board which makes it hard to find for the users to crack for its uniqueness. We can establish this property so that the duplicate hardware devices cannot be made from other companies.

**APPLICATION 3: ANONYMOUS COMPUTATION:**

Suppose if Alice wants to do computations on bob’s computer and needs to know

that the results were correct. This PUF can act as a certificate to make sure that it

has executed correctly.

**APPLICATION 4: SOFTWARE LICENSING:**

If Alice wants to run a program which will work only on Bob’s machine. The

program is copy-protected such that it won’t be able to run to run on other

machines.