***Abstract***

* Rowhammer attack has led to various attacks, such as Privilege Escalation
* Modern solutions to bit flipping defenses are proven to be ineffective
  + Solution Options
    - 1. One-Location Hammering
    - 2. Opcode Flipping
    - 3. Memory Waylaying
* On the Intel ISX, an Rowhammer attack scenario will be conducted to ensure the following
  + User detection is not applicatble
  + DoS attack and Privilege Esclation is an intended result on PCs
  + Evade proposed countermeasures in the article

***Introduction***

* Rowhammer attacks have defied barriers and gain certain access
  + Privilege Escalation (Native Environments, Browser Sandbox, and Virtual Machines on Third – Party)
  + Results:
    - Faulty Attacks on Cryptography Primitives
    - Root Privileges on Phones
* Defense techniques: Categorized into 5 stages
  + Static Analysis
    - Binary code analyzes for erroneous behavior
  + Monitoring Performance Counters
    - Assembly language loop (Flush+Reload) detection
  + Monitoring Memory Access Patterns
    - Regulate and minimize memory exhaustion
      * Memory Exhausion – (SQL Server): Deadlock on memory
  + Prevent Exhaustion Page Placement
  + Preventing Physical Proximity to Kernel Pages