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Title of Paper - Drowsy Caches: Simple Techniques for Reducing Leakage Power

Paper is about –
The paper targets the leakage power as a major contributor in caches and proposes architectural technique called “drowsy caches” to reduce leakage power. Drowsy caches involve method of putting the cache lines to a low power mode at regular interval of time. The authors claim to achieve 50-75% leakage power reduction in caches if the technology under consideration is 0.07u.

Strengths of the paper- 
1. The most important point about this paper is that the significance drowsy cache technique is going to increase as the process technology goes on shrinking, since the leakage power goes on increasing as technology scales further.

2. Another key strength of this paper over other techniques in the leakage power reduction realm is that this technique is that the penalty faced in terms of latency/performance is very low for drowsy caches.

3. The architectural changes are minimal since the authors are not using the cache uses history to decide the cache lines to be put in drowsy state.

Weaknesses of the paper- 
1. The authors should have developed a heuristic to use the cache use history and come up with a policy better than the simple policy. Then the impact of the window size could have been different, since based on cache uses history different window sizes are possible for different cache uses.

2. The authors could have simulated their scheme by varying the size of cache. The results of those simulations would have been appreciated by masses in that case.