Summary

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1 To be completed before class

What are the problems solved by this paper? (50 words)
Caches occupy a great amount of on-chip area and consume large amounts of power due to leakage. With temperature of the chip, the leakage current increases leading to greater power consumption.

What are the approaches attempted by this paper? (50 words)
The authors introduce a drowsy cache in a cache line can be put into low power mode by increasing the threshold voltage $V_t$. The authors collected information on the number of cache accesses and accesses per line over a 2000 cycle window and proposed different simple policies of enabling the drowsy cache. They also proposed to vary the value of $V_t$.

What are the main conclusions of this paper? (50 words)
Drowsy caches reduce static power consumption of caches by more than 80% by turning cache lines into drowsy state. The simple policy can be used with 8000 window cycle to reduce the power consumption.

2 To be completed after class

Did this paper address an important issue? Explain. (100 words)

Are the proposed approaches valid? Describe its strength and weakness. (100 words)

Do the results support the conclusions? Explain. (100 words)

Describe the potential future works? (100 words)