Weekly Report (2009-09-27)

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Currently, our question is whether we can apply the SINR formula for any combined signal, which is whether $\frac{P_i+P_j}{N_0+I} \geq \beta$ is the condition for a successful reception of combined signal i and j. Since last meeting, I have been reading through the literatures to find support.

1) I have finished Chapter 1-4 of [1], which is a "Bible" in wireless communications. And I got a better understanding of the signal transmission and reception.
2) In addition to previous Sigcomm papers, I also read all related papers, [2] [3] [4], from MobiCom in last 3 years. I found that some previous works have some similar assumptions.

My answer to the question is "Yes" from the theoretical perspective.

References

[1] D. Tse and P. Viswanath, *Fundamentals of Wireless Communication*, Cambridge University Press, 2005.

[2] S. Zhang, S.C. Liew and P.P. Lam, *Hot Topic: Physical-Layer Network Coding*, In proceedings of MobiCom'06, Sept. 23-26, 2006, Los Angeles, California, USA.

[3] P. Chaporkar and A. Proutiere, *Adaptive Network Coding and Scheduling for Maximizing Throughput in Wireless Networks*, In proceedings of MobiCom'07, Sept. 9-14, 2007, Montreal, Quebec, Canada.

[4] D. Halperin, T. Anderson and D. Wetherall, *Taking the Sting out of Carrier Sense: Interference Cancellation for Wireless LANs*, In proceedings of MobiCom'08, Sept, 14-19, 2008, San Francisco, USA.