

**Meeting:** 1003, Atlanta, Georgia, AMS CP 1, AMS Contributed Paper Session

1003-42-560      **Yan Wu\*** ([yan@georgiasouthern.edu](mailto:yan@georgiasouthern.edu)), Department of Mathematical Sciences, Georgia Southern University, P. O. Box 8093, Statesboro, GA 30460. *The Nyquist rate of bandpass signals.*

In this talk, we present a new formula for the Nyquist rate of bandpass signals. If the lower frequency of the signal is less than a half of the upper frequency, the Nyquist rate is the same as the one for lowpass signals. Otherwise, the Nyquist rate is at least twice but less than three times the bandwidth of the signal. This Nyquist rate is applicable to all bandpass signals regardless of the band position and it is independent of sampling methods. All feasible sampling rates beyond the Nyquist rate for a bandpass signal are identified. A sampling theorem for bandpass signals with the proposed Nyquist rate is also presented. (Received September 22, 2004)