# EEC 212: Some Interesting MOS Op-Amp Papers

1. P. Gray, ”Basic MOS Op Amp Design - An Overview”, *Analog MOS Integrated Circuits*, IEEE Press, ed. P. Gray, R. Brodersen and D. Hodges, 1980

2. Nicollini, et. al, ”Fully Differential Filter Using Op Amps”, *Journal of Solid-State Circuits*, June 1989, pg. 805. (note: Telescopic op amp w/o current source or CMFB.)

3. Callewaert and Sansen, ”Class AB CMOS Amplifiers with High Efficiency”, *Journal of Solid-State Circuits*, June 1990, pg. 685. (note: Op amp with Slew Enhancement.)

4. K. Bult and G. Geelen, ”A Fast Settling CMOS Op Amp for SC Circuits with 90 dB DC Gain”, *Journal of Solid-State Circuits*, Dec. 1990, pp. 1379-1384. (note: Op amp with Rout enhancement using feedback – some refer to this op amp topology as the ”Super Cascode” or ”Active Cascode”.)

5. T. Fiez, et. al, ”A Family of High Swing CMOS Op amps,” *Journal of Solid-State Circuits*, Dec. 1989, pp. 1683-1687. (A number of different op amps are presented.)

6. K. Behmer and J. Wieser, ”Large Swing CMOS Power Amplifier,” *Journal of Solid-State Circuits*, Dec. 1983, pp. 624-629. (Output stage uses common-source stages in a feedback loop to get low Rout and large output swing.)

7. B. Ahuja, ”An Improved Freq. Compensation Technique for CMOS Op Amps,” *Journal of Solid-State Circuits*, Dec. 1983, pp. 629-633. (The common-gate cascode compensation technique is used to eliminate the RHP zero in a two-stage op amp.)

8. S. Lewis and P. Gray, ”A pipelined 5MS/s 9-bit ADC”, *Journal of Solid-State Circuits*, Dec. 1987, pp. 954-961. (Class AB opamp, fully diff.).

9. T. Choi, et. al, ”High Frequency CMOS SCFs for communications application,” *Journal of Solid-State Circuits*, Dec. 1983, pp. 652-664. (Fully diff. folded cascode.)

10. S. Lewis, et. al, ”A pipelined 9-stage video-rate ADC,” *Custom IC Conf.*, 1991, pp. 26.4.1-265.4.4. (Fully diff. cascode with Miller effect cancellation for input transistors - ’neutralization’.)

11. L. Tomasini, et. al, ”A Fully Differential CMOS Line Driver for ISDN,” *Journal of Solid-State Circuits*, April 1990, pp. 546-554. (Nested Miller comp., class AB stages, drives 100 ohms.)

12. S. Pernici, et. al, ”A CMOS Low-Distortion Fully Differential Power Amplifier with Double Nested Miller Compensation,” *Journal of Solid-State Circuits*, July 1993, pp. 758-763. (Nested Miller comp., drives 50 ohms.)

13. R. Eschauzier, et. al, ”A Programmable 1.5V CMOS Class AB Operational Amplifier with Hybrid Nested Miller Compensation for 120 dB Gain and 6 MHz UGF,” *Journal of Solid-State Circuits*, Dec. 1994, pp. 1497-1504. (Nested Miller comp.)

14. R. Eschauzier and J. Huijsing, Frequency Compensation Techniques for Low-Power Operational Amplifiers, Kluwer, 1995. (Book on Nested Miller comp.)

15. F. You, et. al, ”Multistage Nested Miller Topologies with Nested Gm-C Compensation,” *Journal of Solid-State Circuits*, Dec. 1997, pp. 2000-2011. (Nested Miller comp. with feed-forward zero cancellation.)

16. D. Senderowicz, et. al, ”A Family of Differential NMOS Analog Circuits for a PCM Codec Filter Chip,” *Journal of Solid-State Circuits*, Dec. 1982, pp. 1014-1023. (Early paper on diff. MOS, shows SC CMFB.)

17. G. Palisano and G. Palumbo, ”A Compensation Strategy for Two-Stage CMOS Opamps Based on Current Buffers,” *Trans. on Circuits and Systems I*, Mar. 1997, pp. 257-262. (Using current buffers to eliminate RHP.)

18. P. Hurst, S. Lewis, J. Keane, F. Aram, and K. Dyer, ”Miller Compensation Using Current Buffers in Fully Differential CMOS Two-Stage Operational Amplifiers,” *Trans. on Circuits and Systems I*, Feb. 2004, pp. 257-285. (Some detailed analysis of current buffers using cascode devices to eliminate RHP.)