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Faculty Of Electrical Engineering  
K. N. Toosi University of Technology

Date: Oct 31/2020  
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Time: 16:00- 17:30



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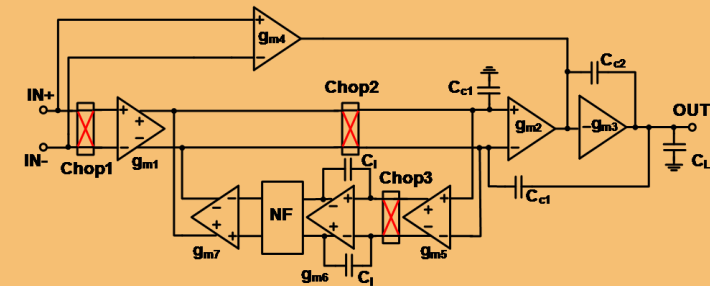
## Electrical Engineering Webinars

# LOW NOISE LOW OFFSET RAIL-TO-RAIL INPUT/OUTPUT OPERATIONAL AMPLIFIER

SCAN ME

### Abstract

45MHz, wide unity gain bandwidth OPAMP was designed and laid out in 0.18 $\mu$ m TSMC CMOS technology. The OPAMP composes of three  $g_m$  stages employing nested miller compensation to provide more than 145dB DC gain and 55° phase margin with 100pF load capacitor in unity gain configuration. 2.5MHz chopping frequency has been used to removed offset and flicker noise of the OPAMP from low frequencies to chopping frequency. This technique presents 2.5nV/oHz input referred noise PSD down to 50Hz, new flicker noise corner frequency. Ripple reduction loop has been employed to attenuate the unwanted modulated signals at chopping frequency by more than 70dB. The circuit is rail to rail input/output and present 35V/ $\mu$ s slew rate and less than 60ns, 0.1% settling time at 1.5V input step. The current consumption of the circuit is only 3.5 mA from 1.8V supply voltage.



### Webinar Link

<https://meet.kntu.ac.ir/b/zar-jrb-p50>  
Access Code: 918307

