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CORRECTION

Correction to: Current inverting metamutator, its implementation with a new single active device and applications

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Voltage Inverting Metamutator (VIM) and Current Inverting Metamutator (CIM) recently introduced in [1] were defined, respectively, with polarities shown in Fig. 1 and relations (1) and (2). However, a careful examination reveals that there is no difference between VIM and CIM of Fig. 1b as changing the reference directions of v_n and i_n in VIM gives CIM as shown in Figs. 1b and 2. So the 4-ports in Fig. 1a, b are the same.

The CIM as given by Fig. 2, with the same reference directions as those of VIM, and defining relation (2) is an entirely different 4-port. In fact, their circuit level realizations are respectively given in Fig. 3a, b.

$$\begin{bmatrix} i_k \\ i_l \\ v_m \\ v_n \end{bmatrix} = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} i_m \\ i_n \\ v_l \\ -v_k \end{bmatrix} \quad (1)$$

$$\begin{bmatrix} i_k \\ i_l \\ v_m \\ v_n \end{bmatrix} = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} i_m \\ -i_n \\ v_l \\ v_k \end{bmatrix} \quad (2)$$

Everything else in [1], including realizations of CIM with IC blocks, remains unaltered.

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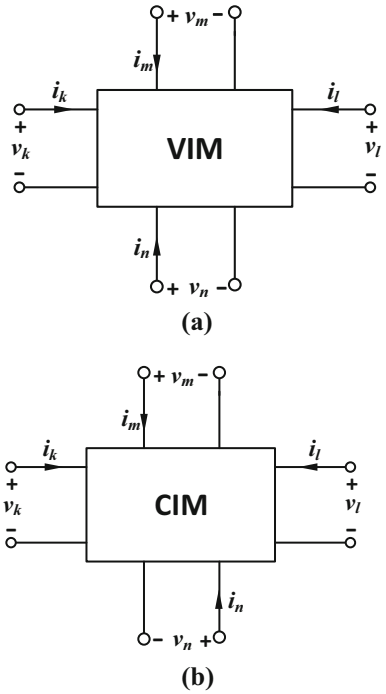

Fig. 1 **a** Block diagram of VIM, **b** wrong block diagram of CIM in [1]

$$\begin{bmatrix} i_k \\ i_l \\ v_m \\ v_n \end{bmatrix} = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} i_m \\ i_n \\ v_l \\ -v_k \end{bmatrix}$$

$$\begin{bmatrix} i_k \\ i_l \\ v_m \\ v_n \end{bmatrix} = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} i_m \\ -i_n \\ v_l \\ v_k \end{bmatrix}$$

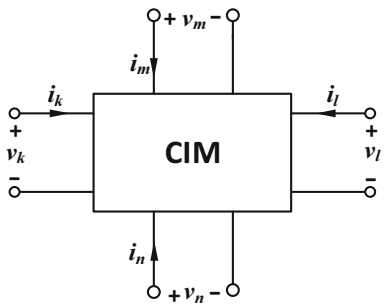

Fig. 2 Correct block diagram of CIM

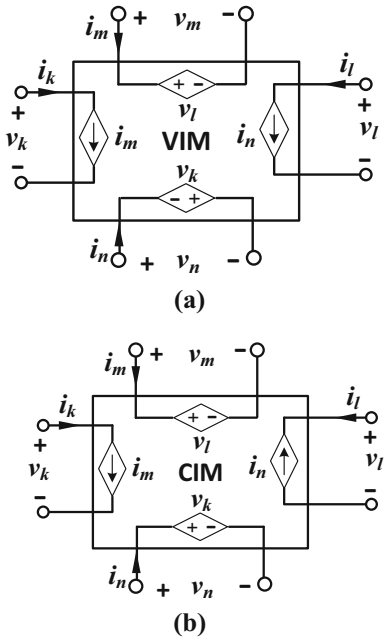

Fig. 3 Circuit level realization of **a** VIM, **b** CIM

Reference

1. Minayi, E., & Göknar, İ. C. (2018). Current inverting metamutator, its implementation with a new single active device and applications. *Analog Integrated Circuits and Signal Processing, 97*(1), 15–25. https://doi.org/10.1007/s10470-018-1239-9.

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