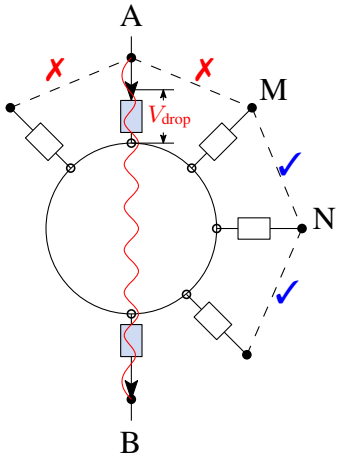
Data Format of pyEIT, Rev 0.1



Key messages:

1. using ABMN model, {A, B} for current source and sink, {M, N} for measuring voltage differences, $V_{N,M}$,
2. M or N should not equal to A or B due to the voltage drops on current path, therefore, the voltage differences on the neighbore of A or B is discarded (trimmed),
3. The distance between AB is called skip. In adjacent mode, skip=1, in opposition mode, skip=8,
4. For a typical 16-electrode system, there are total 208 (16×13) measurements in adjacent mode, and totally 196 (16×12) measurements in opposition mode.

A EIT system repetively applies current and measures the voltages. There are two data formats in each excitation, see *fem.py* for the detailed implementation.

1. *trim=True*. if M or N equals to A or B, the measurement is trimmed. (Currently, trim is fixed to True, this may be changed in a future version of pyEIT),
2. *parser=fmmu*. Data are trimmed, M starts relatively from A,
3. *parser=std*. Data are trimmed, M starts from the 1st electrode.

$A = 3, B = 11$

fmmu

12 12 $[V_{4,3}, V_{5,4}, V_{6,5}, \cdots, V_{11,10}, V_{12,11}, \cdots, V_{1,16}, V_{2,1}, V_{3,2}]$ 12 ⋯ 12

std

12 12 $[V_{2,1}, V_{3,2}, V_{4,3}, \cdots, V_{11,10}, V_{12,11}, \cdots, V_{15,14}, V_{16,15}, V_{1,16}]$ 12 ⋯ 12