

A

 X_1 X_2

Two voxel nodes

B ~~X_1~~ ~~Y_2~~ Y_1

One Voxel Node

Est 1) $\frac{1}{2} (X_1 Y_1 + X_2 Y_2)$

$$\frac{1}{4} \left(\sum_{i,j} X_i Y_j \right)$$

$$\bar{X}_t = \left(\frac{1}{2} (X_1 + X_2) \right)_t$$

$$\frac{1}{4} \left(\frac{1}{2} (X_1 + X_2) \right)$$

$$ie \frac{1}{2} (X_{1t} + X_{2t})$$

$$E_1 = \frac{1}{T} \left(\frac{1}{T} \sum_{t=1}^T X_t \bar{X}_t Y_t - \left(\frac{1}{T} \sum_{t=1}^T \bar{X}_t \right) \left(\frac{1}{T} \sum_{t=1}^T Y_t \right) \right)$$

VS

X

$$E_2 = \frac{1}{mn} \left(\sum_{i,j=1}^{m,n} \left(\frac{1}{T} \sum X_{it} Y_{jt} - \left(\frac{1}{T} \sum X_{it} \right) \left(\frac{1}{T} \sum Y_{jt} \right) \right) \right)$$

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