

# Problem (MEE)

to optimize the values  $\{\mathbf{v}_n\}_{n \in \mathcal{N}}$ ,  $\{\mathbf{u}_n\}_{n \in \mathcal{N}}$  and  $\{x_{ni}\}_{n \in \mathcal{N}, i \in \mathcal{I}}$

Optimization in an alternative manner

## Problem (MEE-BVO)

to optimize the values  $\{\mathbf{v}_n\}_{n \in \mathcal{N}}$  and  $\{\mathbf{u}_n\}_{n \in \mathcal{N}}$

### Problem (BVO-E)

$\mu \downarrow \uparrow \{\mathbf{v}_n\}_{n \in \mathcal{N}}, \{\mathbf{u}_n\}_{n \in \mathcal{N}}$

### Problem (BVO-E-Sub)

$\{\mathbf{u}_n^*\}_{n \in \mathcal{N}} \downarrow$  Semidefinite Relaxation

### Problem (BVO-E-SDR)

### Problem (BVO-Lagrange)

$\{\mathbf{V}_n\}_{n \in \mathcal{N}} \downarrow \uparrow \{\lambda_i\}_{i \in \mathcal{I}}$

### Problem (BVO-Dual)

$\{\mathbf{v}_n^*\}_{n \in \mathcal{N}}$

$\{\mathbf{u}_n^*\}_{n \in \mathcal{N}}$

$\rightarrow$

$\leftarrow$

$\{x_{ni}^*\}_{n \in \mathcal{N}, i \in \mathcal{I}}$

## Problem (MEE-SSO)

to optimize the values  $\{x_{ni}\}_{n \in \mathcal{N}, i \in \mathcal{I}}$

### Problem (SSO-Matching)

$\{x_{ni}\}_{n \in \mathcal{N}, i \in \mathcal{I}} \downarrow \uparrow \{\tilde{\tau}_i\}_{i \in \mathcal{I}}$

### Problem (SSO-Dual)



## Problem (MEE-SSO)

is solved by **Algorithm 2**

## Problem (MEE-BVO)

is solved by **Algorithm 1**

