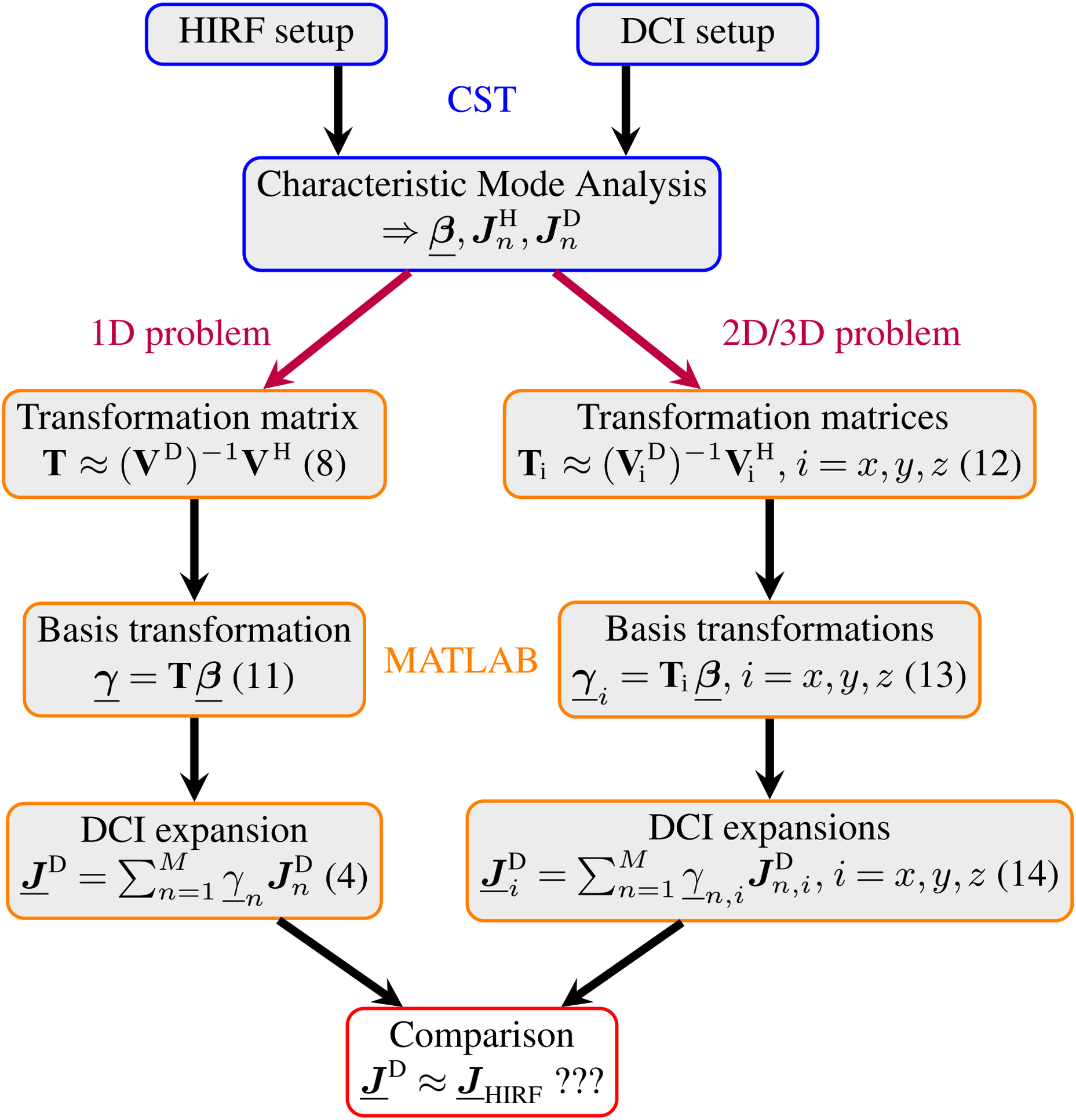
HIRF setup
DCI setup
CST
Characteristic Mode Analysis
$\Rightarrow \underline{\boldsymbol{\beta}}, \boldsymbol{J}_n^{\mathrm{H}}, \boldsymbol{J}_n^{\mathrm{D}}$
1D problem
2D/3D problem
Transformation matrix
$\mathbf{T} \approx (\mathbf{V}^{\mathrm{D}})^{-1}\mathbf{V}^{\mathrm{H}}$ (8)
Transformation matrices
$\mathbf{T}_{\mathrm{i}} \approx (\mathbf{V}_{\mathrm{i}}^{\mathrm{D}})^{-1}\mathbf{V}_{\mathrm{i}}^{\mathrm{H}}, i = x, y, z$ (12)
Basis transformation
$\underline{\gamma} = \mathbf{T}\underline{\boldsymbol{\beta}}$ (11)
MATLAB
Basis transformations
$\underline{\gamma}_i = \mathbf{T}_{\mathrm{i}}\underline{\boldsymbol{\beta}}, i = x, y, z$ (13)
DCI expansion
$\underline{\boldsymbol{J}}^{\mathrm{D}} = \sum_{n=1}^{M} \underline{\gamma}_n \boldsymbol{J}_n^{\mathrm{D}}$ (4)
DCI expansions
$\underline{\boldsymbol{J}}_i^{\mathrm{D}} = \sum_{n=1}^{M} \underline{\gamma}_{n,i} \boldsymbol{J}_{n,i}^{\mathrm{D}}, i = x, y, z$ (14)
Comparison
$\underline{\boldsymbol{J}}^{\mathrm{D}} \approx \underline{\boldsymbol{J}}_{\mathrm{HIRF}}$???