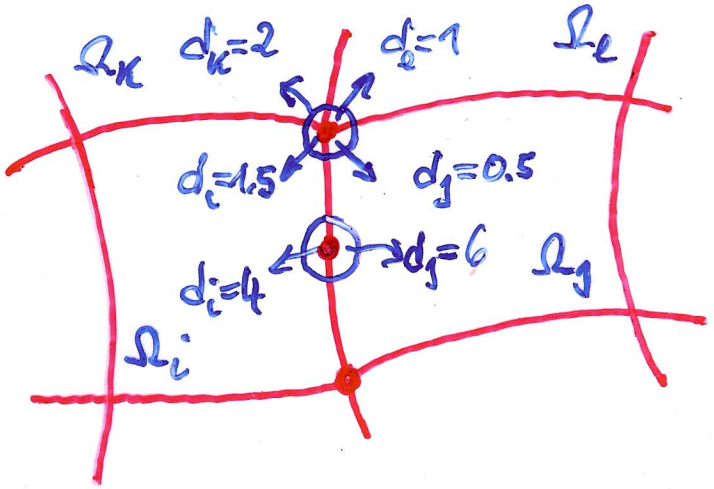
Type II: distributed = non-assembled

$\underline{d}, \underline{x}, \underline{f}$ will be stored in P_j ($\triangleq \bar{\Omega}_j$) as $\underline{d}_j, \underline{x}_j, \underline{f}_j$ such that

$$\underline{d} = \sum_{j=1}^{J} A_j^T \underline{d}_j ,$$

$$\underline{x} = \sum_{j=1}^{J} A_j^T \underline{x}_j$$

$$\underline{f} = \sum_{j=1}^{J} A_j^T \underline{f}_j$$



Stiffness matrix: K_{c_j} : $K_c = \sum_{j=1}^{J} A_{c_j}^T K_{c_j} A_{c_j}$

Wobei $A_j = \begin{bmatrix} A_{c_j} & 0 \\ 0 & A_{I_j} \end{bmatrix} : \mathbb{R}^N \to \mathbb{R}^{N_j}$

= subdomain ($\bar{\Omega}_j$) connectivity matrix,

$K = \sum_{j=1}^{J} A_j^T K_j A_j$ = FE subdomain assembling

$$\downarrow$$

$$K_j = \begin{bmatrix} K_{c_j} & K_{c_j I_j} \\ K_{I_j c_j} & K_{I_j} \end{bmatrix}$$

= subdomain stiffness matrix