

## Development of Steam Network Optimization Method Using Steam Networking Matrices

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Because of high oil price and increment of environmental effects, there are many attempts to reduce energy consumption. Especially many chemical companies try to maximize their energy efficiencies. Individual energy integration was steadily developed during the last decades, and consequently each factory exhibits high energy efficiency. However, it is found that waste heat is disposed in forms of low or medium pressure steams. It also indicates that process analysis should be accomplished in terms of energy minimization from the aspect of entire industrial complex. In this work, a steam network optimization method has been developed using Steam Networking Matrices (SNMs). Results show that energy consumption can be reduced by constructing new steam exchange networks. **Acknowledgement** : This work was supported by the Korean Systems Biology Research Program (M10309020000-03B5002-00000) of the MOST and by the BK21 project, by Center for Ultramicrochemical Process Systems sponsored by KOSEF. Further supports from LG Chemicals Chair Professorship and IBM-SUR program are greatly appreciated.