# Mathematical Programming: Modelling and Applications 

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## Second mathematical model

- Change your objective:

$$
\min \sum_{(u, v) \in E}\left(\sum_{k \in K}\left(x_{u k}-x_{v k}\right)^{2}-d_{u v}{ }^{2}\right)^{2}
$$

- Remark: dgpsystem constraint is no more necessary!


## Third mathematical model

- Change again your objective:

$$
\max \sum_{(u, v) \in E, k \in K}\left(x_{u k}-x_{v k}\right)^{2}
$$

- Remark: dgpsystem constraint is anew necessary, but write it getting rid of slack variables and change equality into a proper inequality.

