

$$\eta(\mathbf{H}, \beta) = \sum_{(\mathbf{u}, \mathbf{v}) \in \mathbf{D}} \mathbf{w}_{\mathbf{u}\mathbf{v}} + \beta \sum_{\mathbf{u} \notin \mathbf{U}} \mathbf{s}(\mathbf{v})$$