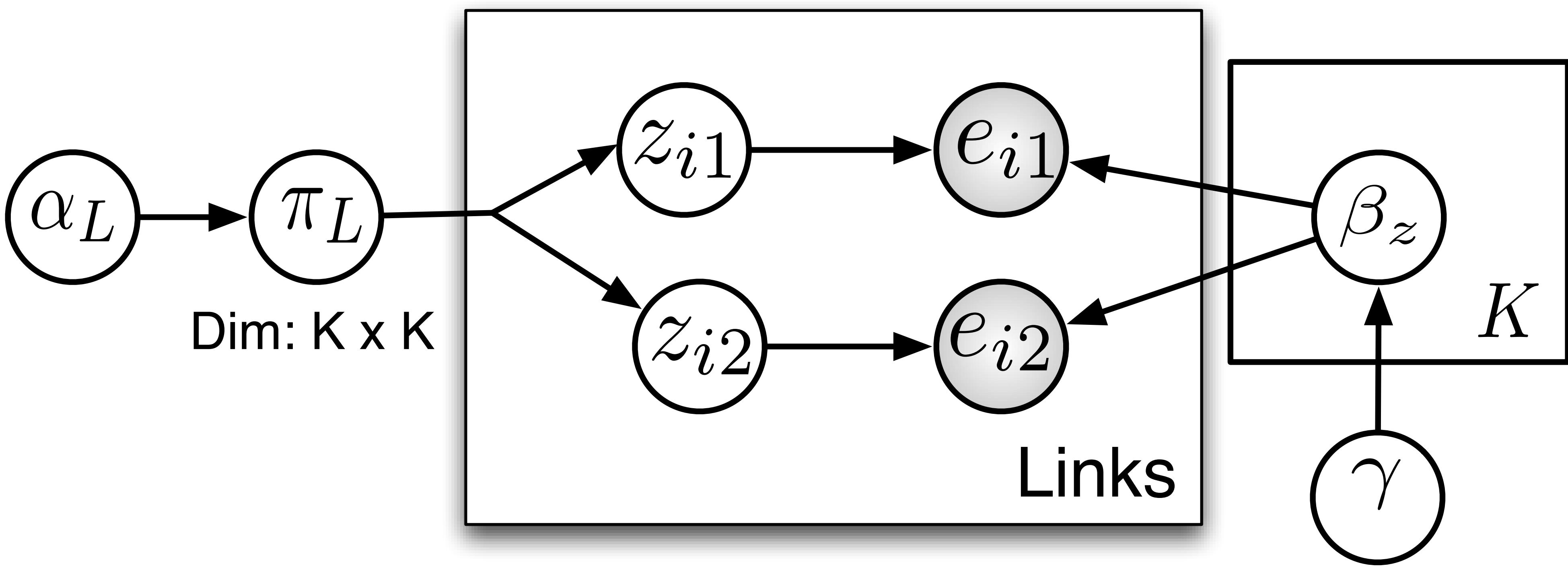


Overview

- * We present an empirical comparison between the following families of network models:
 - spectral family of methods based on graph partition optimization
 - probabilistic models (stochastic block models).
- * Nodes in several types graphs are clustered using these network models and their performances are reported.

A probabilistic model for sparse graphs (PSK)

Parkkinen et al., 2009.



- * Gibbs sampling is used to perform inference on the latent blocks in the model.

$$\begin{aligned}
 p(\mathbf{z}_i = \langle z_1, z_2 \rangle | \langle e_{i1}, e_{i2} \rangle, \mathbf{z}^{\neg i}, \langle \mathbf{e}_1, \mathbf{e}_2 \rangle^{\neg i}, \alpha_L, \gamma) \\
 \propto \left(n_{\langle z_1, z_2 \rangle}^{L^{\neg i}} + \alpha_L \right) \times \frac{(n_{z_1 e_{i1}}^{\neg i} + \gamma) (n_{z_2 e_{i2}}^{\neg i} + \gamma)}{(\sum_e n_{z_1}^{\neg i} + |E|\gamma) (\sum_e n_{z_2}^{\neg i} + |E|\gamma)}
 \end{aligned}$$

