

Centrality and spectral radius in dynamic communication networks

$$\{ \frac{\partial}{\partial t} + \sum_{j=1}^n v_j \frac{\partial}{\partial x_j} + \sum_{j,k=1}^n D_{jk}(x) \frac{\partial^2}{\partial x_j \partial x_k} - \Delta_x \} u = H(x) B(x)$$

Abstract. The crystal structure of $\text{K}_2\text{Mg}(\text{C}_2\text{O}_4)_2 \cdot 6\text{H}_2\text{O}$ has been determined from single-crystal X-ray diffraction data. The space group is $Pnma$, $Z = 4$. The unit-cell dimensions are $a = 0.7891(1)$, $b = 0.7891(1)$, $c = 0.7891(1)$ nm. The structure was refined by full-matrix least-squares methods to $R = 0.04$. The magnesium atom is coordinated by four oxalate groups in a distorted octahedral geometry. The potassium atoms are located in channels along the c -axis. The water molecules are hydrogen-bonded to the oxalate groups. The thermal stability of the compound was studied by thermogravimetric analysis (TGA) and differential scanning calorimetry (DSC). TGA shows weight loss steps corresponding to the removal of water molecules at different temperatures. DSC curves show endothermic peaks associated with the dehydration process. The compound is stable up to approximately 100°C, after which significant weight loss occurs.

$$: \quad l \quad , \quad p \quad l \quad , \quad l$$

1 Introduction

T₀q , q lq ll bl q , p
 q l .q / l p q l p l
 pp q lq l .q / l . T₀ l
 , p q q / l lq, p ll .
 l ., l -l q qq , . l
 T₀ , q qq q l p q .l q b
 b q q q q p q q , l .
 p q ll q q q l
 (q) l l l -
 p q qq l .q / l
 q ff l p p q, q q p q q

[illegible]

ρ

2 Relaxed Communicability

2.2 $\mathbf{B}$

$$A_i$$

$$(I-\alpha A_i)^{-1} \sum_{k=0}^1 \alpha^k A_i^k \tag{}$$

$$\alpha < \frac{1}{\max(A_i)}, i = 0, \dots, M$$

$l \in \mathbb{N}$ p q p l $\mathbb{R}$, α ll l b l
 1 q p l q q p l $\mathbb{R}$ q p q $\mathbb{R}$
 $, \dots$ q l q $\mathbb{R}$, b l q
 b l q , l l $\mathbb{R}$ p l q p q $\mathbb{R}$
 pp , l l α $()$ $\mathbb{R}$, l b b ll -
 q l pl α q A_i l q 2 - A_i l .
 $\mathbb{R}$ p ll p q n , q p q ll
 $, pp$ q b , $\mathbb{R}$ l A_i . l q
 b l pl q ll A_i . ll $\mathbb{R}$ p , Q b
 b q q l $()$ $\mathbb{R}$ p q α q pl $\mathbb{R}$ A $\frac{A}{kAk}$.

2.4 i l i

q q b p q $\mathbb{R}$ p q l q
 l b q b p $\mathbb{R}$ p q $\mathbb{R}$ l q
 b p q $\mathbb{R}$ $A_{i_1}, \dots, A_{i_2}$
 p b l q $\mathbb{R}$ q q q l q $-$
 b l q . k , p Q_k , b -
 q q l $\mathbb{R}$ 0 2 2 0 q (k) $\mathbb{R}$ $/$. 1 0 q $($ $(/)$ 2 $()$ $- 2$. 1 0 q $($ 2 $($ $\mathbb{R}$



Fig. 4. The results of the first stage of the algorithm. The left plot shows the signal after the first stage of the algorithm, and the right plot shows the signal after the second stage of the algorithm.

The results of the first stage of the algorithm are shown in Fig. 4. The left plot shows the signal after the first stage of the algorithm, and the right plot shows the signal after the second stage of the algorithm. The signal is a complex waveform with many peaks and valleys. The first stage of the algorithm is designed to remove the noise from the signal, and the second stage is designed to extract the features from the signal. The results of the first stage are shown in the left plot, and the results of the second stage are shown in the right plot. The signal is a complex waveform with many peaks and valleys. The first stage of the algorithm is designed to remove the noise from the signal, and the second stage is designed to extract the features from the signal. The results of the first stage are shown in the left plot, and the results of the second stage are shown in the right plot.

3.3 Results

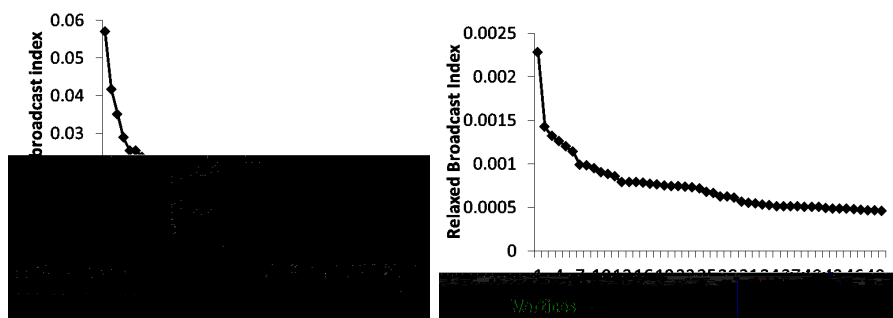


Fig. 5. The results of the second stage of the algorithm. The left plot shows the broadcast index, and the right plot shows the relaxed broadcast index. The signal is a complex waveform with many peaks and valleys. The first stage of the algorithm is designed to remove the noise from the signal, and the second stage is designed to extract the features from the signal. The results of the first stage are shown in the left plot, and the results of the second stage are shown in the right plot.

The results of the second stage of the algorithm are shown in Fig. 5. The left plot shows the broadcast index, and the right plot shows the relaxed broadcast index. The signal is a complex waveform with many peaks and valleys. The first stage of the algorithm is designed to remove the noise from the signal, and the second stage is designed to extract the features from the signal. The results of the first stage are shown in the left plot, and the results of the second stage are shown in the right plot.

References

1. P. B. Erdős, P. A. Renyi, *American Journal of Sociology*, 92:1170–1182, 1987.
2. P. B. Erdős, P. L. Erdős, E. L. Erdős, *Social Networks*, 23(3):191–201, 2001.
3. P. B. Erdős, M. G. E. A. Erdős, *Social Networks*, 28(4):466–484, 2006.
4. B. Erdős, B. Erdős, A. Erdős, *Eur. Sociol. Rev.*, 23(5):666–667, 2007.
5. C. C. Erdős, P. Erdős, *Physical Review Letters*, 105:218701, 2010.
6. J. J. C. Erdős, D. J. H. Erdős, G. Erdős, D. Erdős, *Internet Mathematics (Special Issue on Biological Networks)*, 2011.
7. K. Erdős, D. Erdős, P. Erdős, K. Erdős, *Discrete Mathematics*, 281(1-3):149–161, 2004.
8. N. Erdős, A. Erdős, D. L. Erdős, I. Erdős, *Proceedings of the National Academy of Sciences*, 106:15274–15278, 2009.
9. E. Erdős, N. H. Erdős, C. Erdős, *Physical Review E*, 2011.