

Electronic Journal of Graph Theory and Applications

Errata: "New measures of graph irregularity"

Electronic Journal of Graph Theory and Applications 2(1) (2014), 52–65.

Clive Elphick, Pawel Wocjan^a

^aDepartment of Electrical Engineering and Computer Science, University of Central Florida, Orlando, USA clive.elphick@gmail.com, wocjan@eecs.ucf.edu

Keywords: graph irregularity, clique, chromatic number, Randic index, network heterogeneity

Mathematics Subject Classification: 68R10

DOI: 10.5614/ejgta.2015.3.1.11

1. ERRATA

Theorem 3.1 in this paper stated that if G is a graph with degree-based irregularity ν , then:

$$\chi(G) \leq \frac{n}{\nu}$$
.

We regret that we have found a straightforward error in the proof of this theorem and a counterexample to the theorem.

We have therefore replaced Theorem 3.1 in the paper with the following weaker result:

$$\chi(G) \le \frac{n}{\beta},$$

where β is a spectral measure of graph irregularity, as defined in the paper.

We have also added some new material to the paper to maintain its original length. This involves the properties of an alternative spectral measure of graph irregularity, γ , where:

$$\gamma = \frac{nq}{4m},$$

and q denotes the largest eigenvalue of the signless Laplacian matrix of a graph.

Received: 4 November 2014, Accepted: 21 March 2015.