

Erratum to “S. Zhou, Almost covers of 2-arc transitive graphs,
Combinatorica 24 (4) (2004) 731-745”

Sanming Zhou

Department of Mathematics and Statistics
The University of Melbourne
Parkville, VIC 3010, Australia
smzhou@ms.unimelb.edu.au

January 19, 2007

In Theorems 3.1 the integer $n \geq 4$ is not necessarily even, and the last sentence of the first paragraph on pp.740 should be deleted or replaced by the following explanation. (This change affects neither the rest of the proof of Theorems 3.1 nor the proof of other results in the paper.)

“Thus, if n is even, then consecutive terms in the sequence $\sigma_0\sigma_1, \sigma_1\sigma_0, \sigma_2\sigma_3, \sigma_3\sigma_2, \dots, \sigma_{n-2}\sigma_{n-1}, \sigma_{n-1}\sigma_{n-2}, \sigma_0\sigma_1$ are non-adjacent and adjacent in Γ alternatively, and consecutive terms in $\sigma_1\sigma_2, \sigma_2\sigma_1, \sigma_3\sigma_4, \sigma_4\sigma_3, \dots, \sigma_{n-1}\sigma_0, \sigma_0\sigma_{n-1}, \sigma_1\sigma_2$ are non-adjacent and adjacent in Γ alternatively. If n is odd, then consecutive terms in the sequence $\sigma_0\sigma_1, \sigma_1\sigma_0, \sigma_2\sigma_3, \sigma_3\sigma_2, \dots, \sigma_{n-1}\sigma_0, \sigma_0\sigma_{n-1}, \sigma_1\sigma_2, \sigma_2\sigma_1, \dots, \sigma_{n-2}\sigma_{n-1}, \sigma_{n-1}\sigma_{n-2}, \sigma_0\sigma_1$ are non-adjacent and adjacent in Γ alternatively.”

Accordingly, in Theorem 1.1, Proposition 3.4, Corollary 4.1, Corollary 4.2(b) and the abstract of the paper, the integer $n \geq 4$ is not necessarily even. The word “even” should also be removed from the following locations: pp.740, line 27; pp.741, line 6 from the bottom; pp.742, line 4; and pp.743, line 4 from the bottom.

The following example (due to an anonymous referee for another paper of the author) shows that n can be an odd integer indeed. The Petersen graph Σ can be defined as having vertices the unordered pairs ij of distinct elements of $\{1, 2, 3, 4, 5\}$ such that ij and $i'j'$ are adjacent if and only if $\{i, j\} \cap \{i', j'\} = \emptyset$. The alternative group $G := A_5$ induces a 2-arc transitive group of automorphisms of Σ , and $\Delta := (35, 12, 34, 51)^G$ is a self-paired G -orbit on $A_3(\Sigma)$. It can be verified that the 3-arc graph $\Gamma := \text{Arc}_\Delta(\Sigma)$ is an almost cover of Σ , and that Σ is a near 5-gonal graph with respect to the G -orbit $\mathcal{E} := (12, 34, 51, 24, 35, 12)^G$ on 5-cycles of Σ .