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Interlacement in 4-regular graphs: a new approach using nonsymmetric matrices

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(Submitted on 2 Apr 2012 (v1), last revised 11 Apr 2012 (this version, v2))

Let F be a 4-regular graph with an Euler system C . We introduce a simple way to modify the interlacement matrix of C so that every circuit partition P of F has an associated modified interlacement matrix $M(P, C)$. If C and C' are Euler systems of F then $M(C, C')$ and $M(C', C)$ are inverses, and for any circuit partition P , $M(P, C')$ is $M(C, C')$ times $M(P, C)$. This machinery allows for short proofs of several results regarding the linear algebra of interlacement.

Comments: v1: 15 pages, 6 figures v2: minor corrections

Subjects: **Combinatorics (math.CO)**

Cite as: **arXiv:1204.0482v2 [math.CO]**

Submission history

From: Lorenzo Traldi [[view email](#)]

[v1] Mon, 2 Apr 2012 18:11:43 GMT (68kb)

[v2] Wed, 11 Apr 2012 00:03:39 GMT (68kb)

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