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Department of Mathematics

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Dear Editors,

I am an Assistant Professor of Mathematics at Carleton College, and I am writing to support the submission of the paper “An Alternating Sum of Alternating Sign Matrices”, by Nathan F. Williams, to the Rose-Hulman Undergraduate Mathematics Journal.

Nathan completed this work while he was a student in an upper level seminar on alternating sign matrices which I taught this spring, and in particular, Nathan was an undergraduate when he did this work. Nathan came up with the question that motivates this paper himself, and I acted as his informal supervisor during the several weeks he spent investigating the problem. In particular, I listened to his new results on a regular basis, I contacted experts around the country to find out what was known about the problem, and I made a couple of suggestions regarding the exposition in the final paper. However, all of the mathematics and all of the writing are Nathan’s.

As far as I have been able to determine, the main result in this paper is new. In particular, none of the experts we contacted (David Bressoud, Jim Propp, John Stembridge, and Greg Kuperberg) had seen a proof of it. Kuperberg offered several ideas about how to prove the main result, one of which inspired Nathan to find his proof. I believe this paper is well-written, and of interest to anyone with a little knowledge of combinatorics. It definitely displays a level of mathematical maturity that goes beyond a typical homework assignment.

Here is my name and address, as I would like them to appear, if this paper is published.

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If you need more information, or if I can be of further help in any way, please don’t hesitate to contact me.

Sincerely,

Eric S. Egge