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## **Vector Axioms for Phased MatroidsE**

## Abstract for the Combinatorics Seminar 2015 September 8

Phased matroids are combinatorial objects that play the same role with respect to the complex numbers that oriented matroids play with respect to the real numbers. The theory of phased matroids was introduced by Emanuele Delucchi and myself in a 2010 paper which included axiomatizations analogous to all but one of the standard axiomatizations for oriented matroids. Maddeningly, the axiomatization that was missing was the most topologically interesting one—the vector/covector axioms.

At last, we have such an axiomatization. I'll present it in this talk, together with its equivalence to other axiomatizations, and I'll discuss the topology of phased vectors.

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