Dimer algebras with boundary and grassmannian cluster categories

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We associate a dimer algebra A to a Postnikov diagram D (in a disk) corresponding to a cluster of minors in the cluster structure of the Grassmannian $Gr(k,n)$. We show that A is isomorphic to the endomorphism algebra of a corresponding Cohen-Macaulay module T over the algebra B used by Jensen-King-Su to categorify the cluster structure of $Gr(k,n)$. It follows that B can be realised as the boundary algebra of A, that is, the subalgebra eAe for e the idempotent corresponding to the boundary of the disk. The construction and proof uses an interpretation of the diagram D as a dimer model with boundary. Time given, we also discuss extensions between CM modules for the boundary algebra.

This is joint work with A. King and R. Marsh, and also with D. Bogdanic.