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Graph duality and AdS/CFT PABLO DIAZ BENITO, University of Lethbridge, HAI LIN, Harvard University, ALVARO VELIZ-OSORIO, Queen Mary University of London — Recent mathematical identities between the branching graphs of the unitary groups and the branching graphs of the symmetric groups have been discovered. They go beyond the celebrated Schur-Weyl duality. Schur-Weyl duality was found to have a deep connection with the AdS/CFT correspondence, which states the equivalence between String Theory in AdS backgrounds and specific superconformal field theories. In this talk we will investigate the relation between these new mathematical identities and the AdS/CFT correspondence by identifying each side of the identities with AdS processes and CFT processes respectively. The holographic interpretation of identities involving unitary and symmetric groups is indeed a new methodology for approaching the AdS/CFT correspondence.

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