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Operator mixing in deformed D1D5 CFT and the OPE on the cover[1] BENJAMIN BURRINGTON, Hofstra University, IAN JARDINE, AMANDA PEET, University of Toronto — AdS/CFT is a very fruitful way to study aspects of quantum gravity. Of particular interest is the D1D5 CFT, which becomes a free orbifold CFT at a certain point in moduli space. The deformation of the theory towards the gravitational description is accomplished by a twist operator, and thus efficient techniques for computing correlation functions involving twist operators are invaluable. Using covering space techniques, operators are lifted from the base space to the covering surface and, along with information about the twist sector of the operators, the correlation function on the base space can be constructed from the correlation function on the cover. A natural question is whether the OPE on the covering surface leads to the OPE in the base space. This would yield an extremely efficient way to read off the structure constants of the orbifold CFT. We present some evidence that this is the case by exploring the correlation functions of some example operators in the D1D5 CFT at the free orbifold point using covering space techniques.

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