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Ernest Hunter Brooks* (ernest.brooks@epfl.ch), EPFL SB Mathgeom GRJet, MA B3 494 (Bâtiment MA), 1015 Lausanne, Switzerland. *Unnatural Hecke operators: The local arithmetic of special cycles on Unitary Shimura Varieties.*

Special cycles on unitary Shimura varieties occurring in the context of the Gan–Gross–Prasad conjectures, which arise from considering embeddings of unitary groups, are defined over abelian extensions of imaginary quadratic fields. A necessary ingredient to develop an Iwasawa theory of special cycles is a “vertical distribution relation,” i.e., a relation between the natural Galois and Hecke actions on these cycles over the anticyclotomic \mathbb{Z}_p -extension. We establish these relations for the case of 1-cycles on a 3-fold using local methods, by reducing the problem to the combinatorics of some bizarre operators on Bruhat-Tits buildings.

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