1154-22-1524 **Brian Hwang*** (bhwang@math.cornell.edu). *When Algebraicity Meets Orthogonality: Emergent Phenomena.*

For an automorphic representation to be associated with a Galois representation, it must satisfy an appropriate algebraicity condition. However, these conditions tend to interact poorly with natural operations when *even* special orthogonal groups are involved. For example, the Langlands functorial transfer from SO_{2n} to GL_{2n} fails to preserve algebraicity, unlike those from odd special orthogonal or symplectic groups. In certain contexts, evidence suggests that O_{2n} is the more natural group to work with, but this means leaving the classical framework of the Langlands program, as this group is not connected. Explicit geometric examples seem to say that in order for algebraicity to be defined here in a compatible way, it requires imposing certain "spin"-like conditions that are absent in the connected case. This raises some curious questions about the representations one expects to associate with the corresponding Galois representations and the symmetries of the corresponding geometric families. (Received September 16, 2019)