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François Greer* (greerfra@msu.edu), 619 Red Cedar Road, Wells Hall C212, East Lansing, MI 48824. *Cycle-valued quasi-modular forms*. Preliminary report.

The theta correspondence between automorphic forms produces a rich supply of modular forms with "special cycle" coefficients in the cohomology of Shimura varieties. I will describe what happens when we take the closure of the special cycles in toroidal compactifications, focusing on the case of orthogonal type. This has concrete applications in enumerative algebraic geometry, and leads to a related program outside the Shimura variety context. (Received January 25, 2022)