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**Wushi Goldring\*** (wushijig@gmail.com) and **Jean-Stefan Koskivirta**. *Strata Hasse invariants, Hecke algebras and Galois representations*.

I will try to motivate and then state some of the results from my joint work with Jean-Stefan Koskivirta which bears the same name and is available at arXiv:1507.05032. For each Ekedahl-Oort stratum of a general Hodge-type Shimura variety, we construct a Hecke-equivariant section of the Hodge line bundle which cuts out the smaller strata in its closure. We call these sections "group-theoretical Hasse invariants." Using them as our main tool, we are able to: (1) Attach Galois representations to many automorphic representations with non-degenerate limit of discrete series archimedean component, generalizing work of Deligne-Serre, Taylor, Jarvis, Goldring and Goldring-Nicole (2) Attach pseudo-representations to torsion classes in the coherent cohomology of many Hodge-type Shimura varieties, generalizing the work of Emerton-Reduzzi-Xiao (3) Prove that all Ekedahl-Oort strata are affine, both for a general compact Shimura variety of Hodge-type and for the minimal compactification of a Siegel-type Shimura variety, thereby proving a conjecture of Oort (4) Generalize (part of) Serre's letter to Tate on mod  $p$  forms to general Hodge-type Shimura varieties, refining (parts of) previous results in some PEL cases due to Ghitza and Reduzzi. (Received August 10, 2015)