

Extended period domains and algebraic group

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For a linear algebraic group G over \mathbb{Q} , we consider the period domains D classifying G -mixed Hodge structures, and construct the extended period domains of Borel–Serre orbits, $SL(2)$ -orbits, and nilpotent orbits modulo monodromy. In particular, we give toroidal partial compactifications of mixed Mumford Tate domains, mixed Shimura varieties over \mathbb{C} , and higher Albanese manifolds.

This is joint work with K. Kato and C. Nakayama.

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