

Bost-Connes systems for number fields have appeared previously, first in work of Connes-Marcolli-Ramachandran in the case of an imaginary quadratic field where explicit class field theory is obtained as in the Bost-Connes theorem, but also as a special case of a general construction, using Shimura varieties, due to Ha-Paugam. We describe how  $A$  can be viewed as a corner in an ordinary transformation group  $C^*$ -algebra  $C_0(X) \rtimes_r G$ . Then we identify a general setup in the context of transformation group  $C^*$ -algebras with a non-free action of  $G$  when it is still possible to obtain a one-to-one affine correspondence between KMS-states for  $(A, \sigma)$  and measures on the space  $X$  that satisfy both a normalisation and a scaling condition. In the talk we presented these general results, we outlined their proofs, and we indicated how the main theorem would then follow. We also briefly indicated an alternative construction of  $A$  using  $K$ -lattices, as in the Connes-Marcolli-Ramachandran approach.