

## ASSOUAD DIMENSION AND SELF-AFFINE SETS

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Joint work with Jonathan Fraser. The Assouad dimension is a notion of dimension considers local coverings of sets and can be strictly larger than Hausdorff and box-dimension. It is of importance in embedding theorems. This has been shown to be the case for several families of self-affine sets with grid structure (such as Bedford-McMullen carpets). We consider simple families of self-affine sets based on diagonal matrices but without grid structure and show how computing the Assouad dimension relates to the local dimension and  $L^q$  spectra of certain self-similar measures with overlap. This allows us to show that for 'most' sets in our class the Assouad dimension is the same as the Hausdorff dimension but allows us to also give new examples where the Assouad dimension is strictly larger than the Hausdorff and box counting dimension.