TWO-DIMENSIONAL REPRODUCING FORMULAE ARISING FROM THE METAPLECTIC REPRESENTATION AND THEIR DISCRETISATION

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Abstract. The main focus of this talk is a new class of reproducing formulae for two-dimensional signals which arise from the restriction of the metaplectic representation to a suitable class of subgroups of the symplectic group. Among these formulae, there are equivalent versions of wavelets and shearlets, and many new examples, including cases associated to two-dimensional subgroups. The continuous versions of such representation formulae have been well established. The discretisation is not straightforward, as the classical coorbit theory is not directly applicable. I will discuss an alternative approach to the discretisation, which gives a tight frame for the particular case of the Schrödingerlets.