**RAJA MILAD**, Dalhousie university

*Harmonic Analysis on Affine groups and Continuous Wavelet Transform*

The set of all invertible affine transformations of a two dimensional real vector space forms a locally compact group G2 that is isomorphic to the semi-direct product group formed when GL2(R) acts on R2 in the obvious manner, where GL2(R) denotes the group of 2 by 2 real matrices with nonzero determinant. We give an explicit decomposition of the left regular representation of G2 as a direct sum of infinitely many copies of a single irreducible representation. We also obtain an analog of the continuous wavelet transform associated to the representation we identify.