1126-42-117   **Christopher Heil*** (`heil@math.gatech.edu`), School of Mathematics, Georgia Tech, Atlanta, GA 30332-0160. *Duals of Gabor systems and weighted exponentials at the critical density.*

A Gabor system can only be a Riesz basis when the Beurling density of its index set is exactly 1. There exist Gabor systems that are Schauder bases but not Riesz basis, but it is not known whether every Gabor Schauder basis must have density 1. For lattice Gabor systems there is a complete characterization in terms of the Zak transform of the generating atom. We investigate the properties of subsets of lattice Gabor systems and systems of weighted exponentials at the critical density, which can still be complete and even minimal. Can these systems be bases? We will show that many properties of the dual system are tied to the behavior of the zeros of the atom and the number of lattice elements that are missing from the lattice. (Received January 08, 2017)