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C*-algebras of the 1-D crystal groups: Initial explorations

There are two 1-D crystals. We may form $l^1(G)$ and $l^2(G)$ where G is the symmetry group of the crystal. If $\lambda : l^1(G) \to \mathcal{B}(l^2(G))$ is defined by $\lambda(f)(g) = f * g \quad \forall g \in l^2(G)$, then $\overline{\lambda(l^1(G))}^{\mathcal{B}(l^2(G))}$ is the reduced C* algebra of G, denoted $C_r^*(G)$. The goal is to give a full description of $C_r^*(G)$ for each crystal.