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Transferring unitary representations from $\mathrm{PSL}(2, \mathbb{R})$ to $\mathrm{PSL}(2, \mathbb{Q}_p)$ - an operator algebra approach.

Abstract. We use an operator algebra approach in transferring unitary representations in the discrete series of $\mathrm{PSL}(2, \mathbb{R})$ to $\mathrm{PSL}(2, \mathbb{Q}_p)$. This is related to finite Murray von Neumann dimension of the von Neumann algebra obtained by restriction to $\mathrm{PSL}(2, \mathbb{Z})$. In the case of infinite dimension, we construct a "double representation" (by left and right multiplication operators) that we relate some operator algebras cohomology groups.