HILBERT TRANSFORMS ON COXETER GROUPS AND GROUPS ACTING ON BUILDINGS

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Cotlar identities were used as a tool to show the Lp ($1 < p < \infty$) boundedness of Hilbert transforms on the real line. In 2017, Mei and Ricard first generalized Cotlar identities to the noncommutative setting and showed the Lp-boundedness ($1 < p < \infty$) of Hilbert transforms on free groups. Then in 2022, González-Pérez, Parcet and Xia generalized the result on groups acting on R-trees by using a geometric model. In this talk, we will further discuss this topic on Coxeter groups (abstract reflection groups) and groups which admit actions on buildings. This is a joint work with Runlian Xia.