Carleson measures on domains in Heisenberg group

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In our work [1] we study the Carleson measures on nontangentailly accessible (NTA) domains and domains admissible for Dirichlet problem (ADP) in the Heisenberg groups $\mathbb{H}^n$ and provide two characterizations of such measures: (1) in terms of the level sets of subelliptic harmonic functions and (2) via the 1-quasiconformal family of mappings on the Korányi–Reimann unit ball. Moreover, we establish the L^2-bounds for the square function S_α of a subelliptic harmonic function and the Carleson measure estimates for the BMO boundary data, both on NTA domains in $\mathbb{H}^n$. Finally, we prove a Fatou-type theorem on (ε, δ)-domains in $\mathbb{H}^n$.

References

[1] T. Adamowicz and M. Gryszówka, Carleson measures on domains in Heisenberg groups, *Math. Nachr.*, **298**(2025), 2424-2452.