

## TWO PROBLEMS ASSOCIATED WITH CONVEX FINITE TYPE DOMAINS

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*Abstract*

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We use scaling properties of convex surfaces of finite line type to derive new estimates for two problems arising in harmonic analysis. For Riesz means associated to such surfaces we obtain sharp  $L^p$  estimates for  $p > 4$ , generalizing the Carleson-Sjölin theorem. Moreover we obtain estimates for the remainder term in the lattice point problem associated to convex bodies; these estimates are sharp in some instances involving sufficiently flat boundaries.

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