

TEMPLE UNIVERSITY

Department of Mathematics

Analysis Seminar

Zoom meeting

Monday, February 7 2022, 2:40 p.m.

*The Schatten classes
of Calderón-Zygmund operators*

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Abstract: We prove sufficient conditions for a Calderón-Zygmund operator to belong to the p -th Schatten-von Neumann classes $S_p(L^2(\mathbb{R}^d))$.

As in the classical $T1$ theory, the conditions are given in terms of the smoothness of the operator kernel, and the action of both the operator and its adjoint on the function 1.

To prove membership to the Schatten class when $p > 2$ we develop new bump estimates for composed compact Calderón-Zygmund operators, and a new extension of Carleson's Embedding Theorem.