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Yuri Karlovich* (karlovich@uaem.mx), Universidad Autonoma del Estado de Morelos, Facultad de Ciencias, Av. Universidad 1001, Col. Chamilpa, 62209 Cuernavaca, Morelos, Mexico. *Nonlocal singular integral operators.*

The talk is devoted to studying Banach algebras of generalized singular integral operators with non-regular data and their extensions by finite and infinite groups of weighted shift operators. The study is based on the theory of pseudodifferential operators with non-regular symbols, limit operators techniques and local-trajectory methods. Fredholm symbol calculi are constructed, and Fredholm criteria in terms of Fredholm symbols are established. (Received April 09, 2010)