Meeting: 1000, Albuquerque, New Mexico, SS 10A, Special Session on Multiscale Methods and Sampling in Time-Frequency Analysis

1000-42-28 **Raluca Felea*** (felear@math.rochester.edu), University of Rochester, Math Dept, Rochester, NY 14627. *Composition calculus for fourier integral operators with fold and blowdown singularities.*

The composition calculus for Fourier integral operators associated with a canonical relation is intensively used in integral geometry and inverse scattering theory. First results appeared in the case where the composed canonical relation is smooth. Later it was extended for the case where the canonical relation develops certain singularities. In '90 Greenleaf and Uhlmann proved a composition calculus for Fourier integral operators associated with a one sided blowdown /fold canonical relation. I am going to present a composition calculus for Fourier integral operators associated to canonical relations with two sided folds and one sided fold/blowdown singularities which come up in Synthetic Aperture Radar imaging problems. (Received July 15, 2004)