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Raluca Felea, Allan Greenleaf and Malabika Pramanik* (malabika@math.ubc.ca), 1984
Mathematics Road, Vancouver, BC V6T 1Z2, Canada. *Sobolev estimates for an FIO calculus associated to marine seismic imaging.*

We establish sharp L^2 -Sobolev estimates for classes of pseudodifferential operators with singular symbols whose non-pseudodifferential (Fourier integral operator) parts exhibit two-sided fold singularities. The operators considered include both singular integral operators along two-dimensional curves with simple inflection points and normal operators arising in linearized seismic imaging in the presence of fold caustics. This is joint work with Raluca Felea and Allan Greenleaf. (Received September 21, 2010)