

**OSCILLATORY AND FOURIER INTEGRAL  
OPERATORS WITH DEGENERATE CANONICAL  
RELATIONS**

ALLAN GREENLEAF AND ANDREAS SEEGER

*Abstract*

---

We survey results concerning the  $L^2$  boundedness of oscillatory and Fourier integral operators and discuss applications. The article does not intend to give a broad overview; it mainly focusses on topics directly related to the work of the authors.

---

---

2000 *Mathematics Subject Classification.* 35S30, 42B99, 47G10.

*Key words.* Oscillatory integral operators, Fourier integral operators, generalized Radon transforms, restricted X-ray transforms, finite type conditions, Morin singularities.

Supported in part by grants from the National Science Foundation. The second author would like to thank the organizers of the 2000 El Escorial Conference in Harmonic Analysis and Partial Differential Equations for a very interesting meeting and for the opportunity to present some of this material.