1014-47-945   **Min-Lin Lo*** (`mlo@csusb.edu`), Department of Mathematics, California State University, San Bernardino, 5500 University Parkway, San Bernardino, CA 92407. *The Bargmann Transform and Windowed Fourier Localization.*

Operators which localize in both time and frequency are of interest for applications in signal analysis. I consider the *Gabor-Daubechies* windowed Fourier localization operators L_φ^w, with "symbol" (or "weight function") φ and "window" w. There is an interesting connection between these operators and *Berezin-Toeplitz* operators, via the Bargmann isometry β. For "window" w a finite linear combination of Hermite functions and some interesting classes of "symbols" φ, L. A. Coburn conjectured an equivalence of the form

$$\beta L_\varphi^w \beta^{-1} = C^* M_\varphi C = T_{(I+D)\varphi},$$

where $T_{(I+D)\varphi}$ is a *Berezin-Toeplitz* operator with symbol $(I+D)\varphi$, M_φ is the operator of "multiplication by φ", $C = C(w)$ is a precisely determined operator, and $D = D(w)$ is a constant-coefficient linear differential operator with constant term 0. I settled Coburn's conjecture affirmatively by obtaining the exact formulas for C and the linear differential operator D. Calculation for a simple window function will be demonstrated, and the formulas of C and D for the conjectured result outlined above will be discussed. (Received September 26, 2005)

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