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Transference of Multipliers on Lie Groups

De Leeuw's multiplier theorem relates the multiplier on the circle group $\mathbf{T}$ and the real line $\mathbf{R}$ in a spectacular way. This result has been generalised in many ways in the context of non-commutative harmonic analysis, most notably by Coifman and Weiss. Let G be a real rank one semi–simple Lie group and $G = KAN$ be its Iwasawa decomposition and M be the centraliser of A in K. An analogue of De Leeuw's theorem was proved by Rice, Dooley and Gaudry for the pair $(K/M, N)$ for $G = SO(p, 1)$. But the transference of multipliers from N to K/M part was not the exact converse of the transference from K/M to N. In De Leeuw' s original theorem, transference from $\mathbf{R}$ to $\mathbf{T}$ and from $\mathbf{T}$ to $\mathbf{R}$ are exact converse to each other. Ricci and Rubin proved the transference from K/M to N for $G = SU(2, 1)$ but N to K/M case remained open. In this talk, I will present an exact analogue of De Leeuw's theorem for $G = SU(p, 1)$. Our work resolves a conjecture of C. Herz. This is joint work with A. Dooley and F. Ricci.