Global and concrete quantizations on general type I groups

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In recent papers and books, a global quantization has been developed for unimodular groups of type I. It involves operator-valued symbols defined on the product between the group G and its unitary dual G^ , composed of equivalence classes of irreducible representations. For compact or for graded Lie groups, this has already been developed into a powerful pseudo-differential calculus. In the present article we extend the formalism to arbitrary locally compact groups of type I, making use of the Fourier theory of non-unimodular second countable groups. The unitary dual and its Plancherel measure being quite abstract in general, we put into evidence situations in which concrete forms are available. Kirillov theory and parametrizations of large parts of G^ allow rewriting the basic formulae in a manageable form. Some examples of completely solvable groups are worked out.