

Ateneo de Manila University

Archium Ateneo

Mathematics Faculty Publications

Mathematics Department

2009

Gutt Products and Representations of Lie Groups

Job A. Nable

Follow this and additional works at: <https://archium.ateneo.edu/mathematics-faculty-pubs>

 Part of the [Mathematics Commons](#)

GUTT \star -PRODUCTS AND REPRESENTATIONS OF LIE GROUPS

JOB A. NABLE

ABSTRACT

We present concrete computations of \star -product on duals of Lie algebras and obtain the operator representations of the Lie algebras. Restricting to actions on coadjoint orbits, obtained within deformation quantization, and exponentiating, the representations give the well known complete list of unitary representations of the corresponding Lie groups.

KEYWORDS: Symplectic manifolds, deformation quantization, representation of Lie groups