

1135-16-1132      **Alexandru Chirvasitu\*** (achirvas@buffalo.edu), Buffalo, NY , and **Issan Patri**, Chennai, India. *Dynamics on quantum groups.*

Compact quantum groups are dual objects to appropriately well-behaved cosemisimple complex Hopf algebras. The talk is aimed at discussing various parallels, in the quantum context, of the rich theory of dynamics and ergodic theory on classical compact groups.

We present notions of inner / outer automorphisms for compact quantum groups. For compact matrix quantum groups (the quantum geometer's analogues of compact Lie groups) it turns out that, just as is the case classically, the inner automorphism group is a compact Lie group and the outer automorphism group is discrete. This has non-trivial implications on the behavior of automorphisms of a compact quantum group when such automorphisms are regarded as permutations of the representation ring of the latter.

We also give examples of compact matrix quantum groups with infinitely-generated fusion rings, in stark contrast with the classical situation. This has links to the invariant theory of finite group actions on free Laurent rings, to be discussed as time permits.

(joint w/ Issan Patri) (Received September 19, 2017)