

## THE CORRESPONDENCE BETWEEN POISSON LIE GROUPS AND LIE BIALGEBRAS

We will discuss the equivalence of categories between simply connected, connected Poisson Lie groups and Lie bialgebras. We will in particular show how a homomorphism of Lie bialgebras integrates to a morphism of the corresponding simply connected, connected Poisson Lie groups. This result appears to be “well-known”, but we could not find a proof for it in the literature. This material is expected to be useful in the study of a non-linear Gelfand-Zeitlin integrable system on the dual Poisson Lie group  $GL(n, \mathbb{C})^*$ .