The quantum space

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Abstract

We define the quantum space and the quantum group $\text{Gl}_q(3)$ as the
group of automorphisms of it.

1 The quantum plane

The quantum plane is defined by the relation of q-commutation:

$$xy = qyx$$

2 The quantum space

The quantum space depends of $xyz$ such that:

$$xy = qyx$$
$$zx = qxz$$
$$yz = qzy$$

3 The quantum group $\text{Gl}_q(3)$

The quantum group $\text{Gl}_q(3)$ is defined as the automorphisms of the quantum space. The matrices $A, A'$ respect the relations of the quantum space so that we obtain 36 relations for the 9 coefficients of the matrix $A$.

4 Bibliography