

# The fermionic quantum plane

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## Abstract

Here is a definition of the fermionic quantum plane and the associated fermionic quantum group.

## 1 The quantum plane

The quantum plane is defined as:

$$xy = qyx$$

The transformations of the quantum plane define the quantum group  $U_q(sl_2)$  [K].

## 2 The fermionic quantum plane

The fermionic quantum group is defined as:

$$xy + yx = \frac{q-1}{q+1}(x^2 + y^2)$$

## 3 The fermionic quantum group

The fermionic quantum group  $\hat{U}_q(sl_2)$  is defined as the quantum group of transformations of the fermionic quantum plane.

## References

[K] C.Kassel, "Quantum Groups", Springer-Verlag, Berlin, 1995.