

Ques We know that quantum particles, Bosons and Fermions, obey integer and half-integer spin statistics.

Are there particles, which obey fractional quantum statistics? what are they called?

Ans Yes, There are particles which obey fractional quantum statistics.

→ They are called Anyons.

Anyons are fractional statistics of quasi-particle in 2 dimension that have characteristics which are not seen in bosons / fermions. Experimental evidence for the existence of anyons exists in fractional quantum hall effect, a phenomenon observed in two dimensional electron gases that forms the inversion layer of MOSFETs. They are called anyons because particle may obey any statistics adopting any quantum phase when it exchanges position.