

Special Issue

New Trends on Fractional Quantum Hall Effects and Applications

Message from the Guest Editor

In three-dimensional systems, quasiparticle statistics can be either fermionic or bosonic. In a two-dimensional electron system placed within magnetic field, a variety of anyonic statistics appears in the range from bosonic to fermionic limits. As has been experimentally demonstrated, the charged quasiparticles in the Laughlin liquid at the electron filling factor $1/3$ are indeed anyons. At present, the FQHE states of $5/2$ and $12/5$ with non-abelian anyons are the focus of intense research. The geometrical approach to FQHE establishes its close relation with the physics of gravity in space of $1+1$ and $2+1$ dimensions and predicts the existence of "magnetogravitons"—periodical perturbations of the space metrics. This Special Issue focuses on recent advances in topics relating to the theoretical and experimental investigations of the fractional quantum Hall effect.

Guest Editor

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About the Journal

Message from the Editor-in-Chief

Fractal and Fractional (*Fractal Fract.*) is a scholarly online journal which provides a forum for discussion on new original models and methods in fractals and fractional calculus both from theory and applications. It is a peer-reviewed, open access journal that publishes high quality original research articles, review papers and short communications.

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