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## Noncommutative Geometry and Arithmetics, Real and Virtual

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Quite recently a large amount of work has been done by Alain Connes and collaborators on the connections between noncommutative geometry and arithmetics following a main step which has been a fourteen years old celebrated paper by Alain Connes and Jean-Benoit Bost. We refer a particular connection with virtual subgroups of the real numbers, in the sense of George Mackey, which appear to be quite natural in this context.