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„Dirac geometry.“

Abstract:

This is a report on joint work with Piotr Pstragowski. The condensed mathematics of Clausen and Scholze brings renewed emphasis to the argument that anima (aka homotopy types) should be viewed as discrete objects. In fact, Sullivan made the same argument in his paper on the Adams conjecture. So it is perhaps not unreasonable to view anima as sets with internal symmetries in the same as elementary particles have internal symmetries. Some of these symmetries manifest themselves at the level of homotopy groups. Indeed, the homotopy groups of a commutative algebra in spectra form a commutative algebra in the symmetric monoidal category of graded abelian groups. We develop the geometry built on such algebras. We call it Dirac geometry, since we view the grading as akin to spin. It provides a natural extension of \mathbb{Z} -equivariant geometry in which half-integer Serre twists exist.