ICM 1998, Berlin, Aug. 18–27

Abstracts of Short Communications and Posters

Section:

11. Mathematical Physics

1991 MS Classification: 18, 57, 81, 83

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Quantum geometry by non-abelian cohomology

We introduce a categorical notion of representation of a classical structure, generalizing the usual representation of a group on a Hilbert space. We apply this to the case of a classical manifold and are lead to non-abelian category valued cohomology. We discuss in which sense this cohomology theory encodes properties of a quantum geometry.