
ATUL GOTHE, University of Warsaw / IMPAN

A quantum CW-complex for quantum real projective spaces

A CW-complex is a topological space which can be built up inductively by attaching n -balls B^n along their boundary $(n-1)$ -spheres S^{n-1} . Quantum CW-complexes generalise the classical construction by dualising the pushouts of topological spaces to pullbacks of C^* -algebras, and allowing the C^* -algebras to be noncommutative. Topological graphs, introduced by Katsura, provide a generalisation of discrete graph algebras and homeomorphism C^* -algebras and provide a convenient framework to describe various well-known C^* -algebras. Additionally, they have nice correspondence between the algebraic properties of the C^* -algebras, and combinatorial and topological properties of the graphs. Using this notion of topological graphs, I'll discuss a quantum CW-complex structure for quantum real projective spaces.