

$\mathbb{C}P^2$ STABLE DIFFEOMORPHISM OF 4-MANIFOLDS

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Two 4-manifolds are said to be $\mathbb{C}P^2$ stably diffeomorphic if after connected sum with arbitrarily many copies of the complex projective plane, they become diffeomorphic. I will explain joint work with Daniel Kasprowski and Peter Teichner, in which we classify 4-manifolds up to $\mathbb{C}P^2$ stable diffeomorphism in terms of the homotopy 2-type, for many fundamental groups. Time permitting, I will discuss related results when one allows stabilisation with copies of $S^2 \times S^2$ instead.