

ATELIER SUR LES VARIÉTÉS DE MÉTRIQUES ET LES MÉTHODES PROBABILISTES EN GÉOMÉTRIE ET ANALYSE

2-6 JUILLET, 2012

WORKSHOP ON MANIFOLDS OF METRICS AND PROBABILISTIC METHODS IN GEOMETRY AND ANALYSIS

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Integration over the space of Bergman metrics

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The space of Bergman metrics provides the finite dimensional approximation to the space of all metrics on a Kahler manifold, which proved to be highly useful in the study of the existence of constant scalar curvature metrics. Guided by lessons of 2d quantum gravity, we use this fact in order to define and study path integrals over Kahler metrics. We will also discuss new insights into 2d gravity coming from the Kahler geometry : measures on the space of metrics, new geometric action functionals and the appearance of barriers on coupling constants.

Based on work with Frank Ferrari and Steve Zelditch.

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