

# Finite frames, frame potentials and determinantal point processes on the sphere

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## **Abstract**

In this talk we discuss on frame potentials of several types of determinantal point processes on the sphere, which are used in a fermion model in quantum mechanics and also studied in probability theory. We compare these random point configurations with spherical designs, which are one of the non-random “good” point configurations on the sphere, and also discuss on its applications to numerical integrations. Moreover, we also discuss some other potential energies and discrepancies if possible.