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Utilization of balayage techniques to minimal energy problems for logarithmic and Riesz potentials

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In this talk we showcase various applications of balayage techniques to minimal energy problems on the real line/unit circle, as well as the unit sphere S^d . Based on recent joint work with Benko and Totik on convexity of equilibrium measures and applications, and with Brauchart and Saff on separation of Q-optimal configurations, we shall focus on the common balayage approaches to illustrate this powerful tool.