

# 茨城大学セミナー (6/1 月)

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Title: Superconformal Quantum Mechanics from M2-branes

Abstract: We discuss the superconformal quantum mechanics arising from the M2-branes. We review the superconformal quantum mechanics and argue that conformal symmetry and supersymmetry in quantum mechanics contain a number of exotic properties which do not occur in higher dimensional field theories. We then review the M2-branes with a focus on the world-volume descriptions of the multiple M2-branes which are superconformal three-dimensional Chern-Simons matter theories. Combining the above two ingredients, we see that they may be connected in M-theoretical construction by considering the multiple M2-branes wrapped around a compact Riemann surface and study the emerging IR quantum mechanics. We also discuss possible applications of the superconformal quantum mechanics to mathematical physics.