On connection problem of q-conformal blocks and its application

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Abstract: Our q-conformal block function is derived from an expectation value of intertwiners between Fock modules of Ding-Iohara-Miki algebra. It is a series with explicit coefficients and can be identified with the q-Nekrasov partition function. I will explain how we solve the connection problem of the q-conformal block with the degenerate condition. Using the connection formula, I construct a fundamental solution of a q-linear difference system and obtain tau functions of a q-Painlevé system whose limit is the Fuji-Suzuki-Tsuda system.