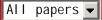**Mathematics > Optimization and Control**

Transversality Conditions for Higher Order Infinite Horizon Discrete Time Optimization Problems

Dapeng Cai, Takashi Gyoshin Nitta

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In this paper, we examine higher order difference problems. Using the "squeezing" argument, we derive both Euler's condition and the transversality condition. In order to derive the two conditions, two needed assumptions are identified. A counterexample, in which the transversality condition is not satisfied without the two assumptions, is also presented.

Subjects: **Optimization and Control (math.OC)**; Computational Finance (q-fin.CP)

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