## On Numerical Aspects of Solving Infinite Horizon Optimal Control Problems

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**Abstract:** In this talk we consider a class of infinite horizon optimal control problems involving an integral functional. The integral is interpreted in the sense of Henstock-Kurzweil. A method for numerical solution for problems of this class is proposed.

We consider a class of infinite horizon optimal control problems involving the Henstock-Kurzweil integral. Such problems arise in many applications to economics, biology and continuum mechanics. The chosen interpretation of the integral results from unsatisfactory points in using Lebesgue or improper Riemann integrals for handling control problems with infinite horizon. Difficulties arising in numerical treatment of these problems like a missing boundary condition in the canonical system and impossibility of numerical computing of Lebesgue integral in general are discussed. We use a special technique for numerical computation of Henstock-Kurzweil integrals to obtain an algorithm for numerical solution of the described class of control problems. Obtained results are illustrated by examples.

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