

# On the stochastic maximum principle in optimal control of degenerate diffusions with lipschitz coefficients

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## Abstract

We establish a stochastic maximum principle in optimal control of a general class of degenerate diffusion processes with global Lipschitz coefficients, generalizing the existing results on stochastic control of diffusion processes. We use distributional derivatives of the coefficients and the Bouleau Hirsh flow property, in order to define the adjoint process on an extension of the initial probability space.

**Keywords** stochastic differential equation; optimal control; stochastic maximum principle; degenerate diffusion.

## Link

[http://apps.webofknowledge.com.www.sndl1.arn.dz/full\\_record.do?product=UA&search\\_mode=OneClickSearch&qid=7&SID=U1LIS2LUJj38aIS36Mg&page=1&doc=7&cacheurlFromRightClick=no](http://apps.webofknowledge.com.www.sndl1.arn.dz/full_record.do?product=UA&search_mode=OneClickSearch&qid=7&SID=U1LIS2LUJj38aIS36Mg&page=1&doc=7&cacheurlFromRightClick=no)