

SNELL ENVELOPE WITH SMALL PROBABILITY CRITERIA

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We present a new algorithm to compute the Snell envelope in the specific case where the criteria to optimize is associated with a small probability or a rare event. This new approach combines the Stochastic Mesh approach of Broadie and Glasserman with a particle approximation scheme based on a specific change of measure designed to concentrate the computational effort in regions pointed out by the criteria. The theoretical analysis of this new algorithm provides non asymptotic convergence estimates. Finally, the numerical tests confirm the practical interest of this approach.

Joint work with Pierre Del Moral and Nadia Oudjane.