

# NUMERICAL APPROXIMATION OF BSDES

EMMANUEL GOBET

ABSTRACT. Backward Stochastic Differential Equations are useful tools for stochastic control problems, their applications in stochastic finance are very fruitful. After reviewing usual properties of BSDEs and different financial applications, I will present in details the approximation results about these equations. Among others, it includes the impact of time discretization and its connection with fractional smoothness, the computations of iterated condition expectations and the connection with non parametric regression. The case of reflected BSDEs (optimal stopping/switching problems) will be discussed as well. Bibliography will be given during the lectures.

EMMANUEL GOBET

GRENOBLE INSTITUTE OF TECHNOLOGY - ENSIMAG

GRENOBLE, FRANCE