

Controllability of degenerate parabolic operators

Karine Beauchard, Ecole Polytechnique

Unlike uniformly parabolic equations, parabolic operators that degenerate on subsets of the space domain exhibit very different behaviors from the point of view of controllability. For instance, null controllability in arbitrary time may be true or false according to the degree of degeneracy, and there are also examples where a finite time is needed to ensure such a property. This talk will survey most of the theory that has been established so far for operators with boundary degeneracy, and discuss recent results for operators of Grushin or Kolmogorov type which degenerate in the interior.