ICM 1998, Berlin, Aug. 18–27

Abstracts of Short Communications and Posters

Section:

17. Control Theory and Optimization

1991 MS Classification: 28, 34, 46, 49
Dikoussar, Vassili, Computing Centre RAS, Moscow, Russia
Optimal Control with Control-State Constraints
We deal with optimal problems with both pure and mixed state variable constraints. Pure constraints are inequality constraints expressed only in terms of the state variables and time. Mixed constraints are ones on control, state variables and time. Some results of the necessary conditions for non-regular mixed constraints are summarized. There are the connections between pure and mixed constraints. The entire set of necessary conditions yields a multipoint boundary-value problem. For illustration purposes, we consider examples from mechanics, management science and economics.