

Index

- Aleksandrov A. D., 95
- Area formula, 95
- Bellman equation, 8
- Burgers' equation, 4
- Caffarelli L. A., 80
 - Crandall-Kocan-Święch, 83
- comparison principle
 - for boundary value problems, 63
 - classical —, 24, 25
 - counter-example of —, 68
 - for Dirichlet problems, 23, 66
 - for first-order PDEs, 27, 29
 - for Neumann problems, 73
 - for second-order PDEs, 34, 38
 - for state constraint problems, 70
 - in unbounded domains, 76
- continuity
 - of viscosity solutions, 41
- convex, 6
- cost functional, 46, 52
 - optimal —, 46, 53
 - for state constraints, 69
- Crandall M. G.
 - Kocan-Lions-Święch, 92
- cube decomposition lemma, 110
- De Giorgi E., 80
- divergence form, 5
- dyadic cube, 110
- dynamic programming principle, 46, 53
- eikonal equation, 9
- elliptic
 - degenerate —, 12
 - uniformly —, 25
 - constants, 24
- entropy condition, 5
- Escauriaza L., 83
- Evans L. C., 106
 - Souganidis, 56
- existence, 3
 - of L^p -strong solutions, 84
 - of L^p -viscosity solutions, 92
 - of viscosity solutions, 42
 - of Isaacs equations, 56
 - of state constraint problems, 69
 - of Bellman equations, 48
- Fok P.-K., 114
- fully nonlinear, 7
- Hamilton-Jacobi equation, 6
- Harnack inequality, 80, 85, 86, 88
 - , final version, 87
 - weak —, 81, 85, 109
- Heaviside function, 19
- Hölder continuity, 79
 - of L^p -viscosity solutions, 89, 92
- homogeneous degree, 29
- Hopf-Lax formula, 6
- interior cone condition, 66
- Isaacs equation, 8
- Ishii H., 32, 40
 - Koike, 71

- ’s lemma, 32, 95
- simplified —, 99
- Ishii, H.
 - Lions, 36
- Jensen R., 8, 32
 - ’s lemma, 95
- Kružkov S. N., 7
- Krylov N. V.
 - Safonov, 80
- Laplace equation, 2
- Lax-Oleinik formula, 5
- L^∞ -Laplacian, 8
- Lions P.-L., 32
- L^p regularity, 79
- maximum principle
 - Aleksandrov-Bakelman-Pucci —, 83, 100
 - local —, 81, 85, 114
 - for semi-continuous functions, 15
- mean curvature, 8
- modulus of continuity, 27
- Moser J., 80
- multi-index, 79
- Nadirashvili N., 78
- Neumann
 - condition, 72
 - problem, 73
- non-anticipating strategy, 52
- nondivergence form, 5
- Poisson equation, 78
- Pucci’s operator, 25
- quasi-linear, 8
- Rankine-Hugoniot condition, 5
- Schauder regularity, 79
- semi-concave, 7
- semi-continuous envelope, 40
- semi-convex, 95
- semi-jet, 16
- solution
 - classical —, 3, 11
 - L^p -strong —, 81
 - L^p -viscosity —, 81
 - viscosity —, 13
 - of semi-continuous PDEs, 59
 - semi-continuous —, 40
 - for boundary value problems, 62, 63
 - weak —, 3
 - distribution sense, 5
- Soner H. M., 71
- stability, 3
 - of L^p -viscosity solutions, 93
 - of viscosity solutions, 60
- structure condition, 33
 - in \mathbf{R}^n , 75
- subsolution *see* solution, 11, 13, 40, 59, 62, 63, 81
- supersolution *see* solution, 11, 13, 40, 59, 62, 63, 81
- Trudinger N. S., 80, 114
- uniform exterior sphere condition, 72
- uniform exterior cone condition, 92
- uniqueness, 3
 - for Dirichlet problem, 23
- unit outward normal, 66
- upper contact set, 83
- value function, 46, 53

vanishing viscosity method, 10