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Publications in Edited Volumes

- (with Jaśkiewicz, A.) Zero-sum stochastic games. Handbook of Dynamic Game Theory, vol. I, Springer, Cham, 2018, 215-279.
- (with Jaśkiewicz, A.) Non-zero-sum stochastic games. Handbook of Dynamic Game Theory. Springer, Cham, 2018, 281-344.
- (with Balbus, Ł.; Jaśkiewicz, A.) Robust Markov perfect equilibria in a dynamic choice model with quasi-hyperbolic discounting. In: Dynamic games in economics, Dyn. Model. and Econometrics in Econ. Finance, 16, Springer, Heidelberg, 2014, 1–22.
- N-person stochastic games: extensions of the finite state space case and correlation. In: Stochastic games and applications, NATO Sci. Ser. C, Math. Phys. Sci., 570, Kluwer Acad. Publ., Dordrecht, 2003, 93–106.
- Zero-sum stochastic games with Borel state spaces. In: Stochastic games and applications, NATO Sci. Ser. C, Math. Phys. Sci., 570, Kluwer Acad. Publ., Dordrecht, 2003, 77–91.
- (with Szajowski, K.) Nonzero-sum stochastic games. In: Stochastic and differential games, Ann. Internat. Soc. Dyn. Games, 4, Birkhäuser, Boston, MA, 1999, 297–342.
- Stationary equilibria for non-zero-sum average payoff ergodic stochastic games with general state space. In: Advances in dynamic games and applications. Ann. Internat. Soc. Dyn. Games, 1, Birkhäuser, Boston, MA, 1994, 231–246.
- Existence of correlated weak equilibria in discounted stochastic games with general state space. In: Stochastic games and related topics, Shapley honor volume. Kluwer Acad. Publ., Dordrecht, 1991, 135-143.
- (with Raghavan, T.E.S.) Positive stochastic games and a theorem of Ornstein. In: Stochastic games and related topics, Shapley honor volume. Kluwer Acad. Publ., Dordrecht, 1991, 127-134.

Publications in Journals

(with Bäuerle, N.; Jaśkiewicz, A.) Stochastic dynamic programming with non-linear discounting. Appl. Math. Optim. (2021), https://doi.org/10.1007/s00245-020-09731-x

- (with Jaśkiewicz, A.) Markov decision processes with quasi-hyperbolic discounting. Finance and Stochastics 25 (2021), https://doi.org/10.1007/s00780-020-00443-2
- (with Balbus, Ł.; Jaśkiewicz, A.) Equilibria in altruistic economic growth models. Dyn. Games Appl. 10 (2020), 1-18.
- (with Balbus, Ł.; Jaśkiewicz, A.) Markov perfect equilibria in a dynamic decision model with quasi-hyperbolic discounting. Ann. Oper. Res. 287 (2020), 573-591.
- (with E.A. Feinberg; Jaśkiewicz, A.) Constrained discounted Markov decision processes with Borel state spaces. Automatica 111 (2020), 108582.
- (with Jaśkiewicz, A.) Constrained Markov decision processes with expected total reward criteria. SIAM J. Control Optim. 57 (2019), 3118-3136.
- (with Jaśkiewicz, A.) On a generalization of the Dvoretzky-Wald-Wolfowitz theorem with an application to a robust optimization problem. J. Math. Anal. Appl. 469 (2019), no. 1, 126–135.
- (with Jaśkiewicz, A.) On symmetric stochastic games of resource extraction with weakly continuous transitions. TOP 26 (2018), no. 2, 239–256.
- (with Balbus, Ł.; Jaśkiewicz, A.; Woźny, Ł.) A note on Markov perfect equilibria in a class of non-stationary stochastic bequest games. J. Math. Anal. Appl. 456 (2017), no. 1, 394–401.
- (with Jaśkiewicz, A.) Stationary almost Markov perfect equilibria in discounted stochastic games. Math. Oper. Res. 41 (2016), no. 2, 430–441.
- (with Balbus, Ł.; Jaśkiewicz, A) Non-paternalistic intergenerational altruism revisited. J. Math. Econom. 63 (2016), 27–33.
- (with Jaśkiewicz, A.) On pure stationary almost Markov Nash equilibria in nonzerosum ARAT stochastic games. Math. Methods Oper. Res. 81 (2015), no. 2, 169–179.
- (with Balbus, Ł.; Jaśkiewicz, A.) Stochastic bequest games. Games Econom. Behav. 90 (2015), 247–256.
- (with Balbus, Ł.; Jaśkiewicz, A.) Existence of stationary Markov perfect equilibria in stochastic altruistic growth economies. J. Optim. Theory Appl. 165 (2015), no. 1, 295–315.
- (with Jaśkiewicz, A.) Stochastic games of resource extraction. Automatica J. IFAC 54 (2015), 310–316.
- (with Balbus, Ł.; Jaśkiewicz, A.) Bequest games with unbounded utility functions.
 J. Math. Anal. Appl. 427 (2015), no. 1, 515–524.

- (with Jaśkiewicz, A.; Matkowski, J.) On variable discounting in dynamic programming: applications to resource extraction and other economic models. Ann. Oper. Res. 220 (2014), 263–278.
- (with Jaśkiewicz, A.) Robust Markov control processes. J. Math. Anal. Appl. 420 (2014), no. 2, 1337–1353.
- (with Jaśkiewicz, A.) Robust Markov perfect equilibria. J. Math. Anal. Appl. 419 (2014), no. 2, 1322–1332.
- (with Jaśkiewicz, A.; Matkowski, J.) Generalised discounting in dynamic programming with unbounded returns. Oper. Res. Lett. 42(2014), no. 3, 231–233.
- (with Jaśkiewicz, A.) Stationary Markov perfect equilibria in risk sensitive stochastic overlapping generations models. J. Econom. Theory 151 (2014), 411–447.
- (with Solan, E.; Sorin, S.) Preface: Special issue on stochastic games. Dyn. Games Appl. 3 (2013), no. 2, 125–127.
- (with Jaśkiewicz, A.; Matkowski, J.) Persistently optimal policies in stochastic dynamic programming with generalized discounting. Math. Oper. Res.38 (2013), no. 1, 108–121.
- (with Jaśkiewicz, A.) Stochastic games with unbounded payoffs: applications to robust control in economics. Dyn. Games Appl. 1 (2011), no. 2, 253–279.
- (with Matkowski, J.) On discounted dynamic programming with unbounded returns. Econom. Theory 46 (2011), no. 3, 455–474.
- (with Jaśkiewicz, A.) Discounted dynamic programming with unbounded returns: application to economic models. J. Math. Anal. Appl. 378 (2011), no. 2, 450–462.
- On measurable minimax selectors. J. Math. Anal. Appl. 366 (2010), no. 1, 385–388.
- On a noncooperative stochastic game played by internally cooperating generations. J. Optim. Theory Appl. 144 (2010), no. 1, 88–106.
- (with Balbus, Ł.) Existence of perfect equilibria in a class of multigenerational stochastic games of capital accumulation. Automatica J. IFAC 44 (2008), no. 6, 1471–1479.
- (with Balbus, Ł.) Nash equilibria in unconstrained stochastic games of resource extraction. Int. Game Theory Rev. 10 (2008), no. 1, 25–35.
- Equilibrium in a dynamic game of capital accumulation with the overtaking criterion. Econom. Lett. 99 (2008), no. 2, 233–237.

- On stochastic games in economics. Math. Methods Oper. Res. 66 (2007), no. 3, 513–530.
- (with Więcek, P.) On Nikaido-Isoda type theorems for discounted stochastic games. J. Math. Anal. Appl. 332 (2007), no. 2, 1109–1118.
- (with Jaśkiewicz, A.) Approximation of noncooperative semi-Markov games. J. Optim. Theory Appl. 131 (2006), no. 1, 115–134.
- Remarks on sensitive equilibria in stochastic games with additive reward and transition structure. Math. Methods Oper. Res. 64 (2006), no. 3, 481–494.
- (with Jaśkiewicz, A.) Optimality in Feller semi-Markov control processes. Oper. Res. Lett. 34 (2006), no. 6, 713–718.
- (with Jaśkiewicz, A.) Zero-sum ergodic stochastic games with Feller transition probabilities. SIAM J. Control Optim. 45 (2006), no. 3, 773–789.
- A multigenerational dynamic game of resource extraction. Math. Social Sci. 51 (2006), no. 3, 327–336.
- On perfect equilibria in stochastic models of growth with intergenerational altruism. Econom. Theory 28 (2006), no. 1, 73–83.
- (with Jaśkiewicz, A.) On the optimality equation for average cost Markov control processes with Feller transition probabilities. J. Math. Anal. Appl. 316 (2006), no. 2, 495–509.
- (with Jaśkiewicz, A.) Nonzero-sum semi-Markov games with the expected average payoffs. Math. Methods Oper. Res. 62 (2005), no. 1, 23–40.
- (with Balbus, Ł.) Construction of Nash equilibria in symmetric stochastic games of capital accumulation. Math. Methods Oper. Res. 60 (2004), no. 2, 267–277.
- On a new class of nonzero-sum discounted stochastic games having stationary Nash equilibrium points. Internat. J. Game Theory 32 (2003), no. 1, 121–132.
- (with Szajowski, P.) On Nash equilibria in stochastic games of capital accumulation. Game Theory Appl. 9 (2003), 113–124, Nova Sci. Publ., Hauppauge, NY.
- (with Altman, E.) ϵ -equilibria for stochastic games with uncountable state space and unbounded costs. SIAM J. Control Optim. 40 (2002), no. 6, 1821–1839.
- (with Jaśkiewicz, A.) On the optimality equation for zero-sum ergodic stochastic games. Math. Methods Oper. Res. 54 (2001), no. 2, 291–301.
- Some remarks on equilibria in semi-Markov games. Appl. Math. (Warsaw) 27 (2000), no. 4, 385–394.

- (with Radzik, T.) An alternative characterization of the weighted Banzhaf value. Internat. J. Game Theory 29 (2000), no. 1, 127–132.
- Optimal strategies in a class of zero-sum ergodic stochastic games. Math. Methods Oper. Res. 50 (1999), no. 3, 399–419.
- Sensitive equilibria for ergodic stochastic games with countable state spaces. Math. Methods Oper. Res. 50 (1999), no. 1, 65–76.
- A note on strong 1-optimal policies in Markov decision chains with unbounded costs. Math. Methods Oper. Res. 49 (1999), no. 3, 475–482.
- (with Vega-Amaya, O.) A counterexample on overtaking optimality. Math. Methods Oper. Res. 49 (1999), no. 3, 435–439.
- On approximations of nonzero-sum uniformly continuous ergodic stochastic games. Appl. Math. (Warsaw) 26 (1999), no. 2, 221–228.
- A generalization of Ueno's inequality for n-step transition probabilities. Appl. Math. (Warsaw) 25 (1998), no. 3, 295–299.
- On an axiomatization of the Banzhaf value without the additivity axiom. Internat. J. Game Theory 26 (1997), no. 1, 137–141.
- (with Radzik, T.; Driessen, T.S.H.) Weighted Banzhaf values. Math. Methods Oper. Res. 45 (1997), no. 1, 109–118.
 (with Radzik, T.) On convex combinations of two values. Appl. Math. (Warsaw) 24 (1996), no. 1, 47–56.
- (with Radzik, T.) On axiomatizations of the weighted Shapley values. Games Econom. Behav. 8 (1995), no. 2, 389–405.
- Zero-sum average payoff stochastic games with general state space. Games Econom. Behav. 7 (1994), no. 2, 221–232.
- (with Radzik, T.) A solidarity value for n-person transferable utility games. Internat. J. Game Theory 23 (1994), no. 1, 43–48.
- (with Radzik, T.) The Shapley value for n-person games in generalized characteristic function form. Games Econom. Behav. 6 (1994), no. 1, 150–161.
- (with Raghavan, T.E.S.) A finite step algorithm via a bimatrix game to a single controller non-zero sum stochastic game. Math. Programming 59 (1993), no. 2, Ser. A, 249–259.
- Correlated equilibria in nonzero-sum differential games. J. Math. Anal. Appl. 174 (1993), no. 2, 539–549.

- (with Raghavan, T.E.S.) Existence of stationary correlated equilibria with symmetric information for discounted stochastic games. Math. Oper. Res. 17 (1992), no. 3, 519–526.
- Correlated relaxed equilibria in non-zero-sum linear differential games. J. Math. Anal. Appl. 163 (1992), no. 1, 104–112.
- (with Radzik, T.) On weakly correlated and correlated equilibria in discontinuous games. Optimization 21 (1990), no. 5, 805–811.
- Semicontinuous nonstationary stochastic games. II. J. Math. Anal. Appl. 148 (1990), no. 1, 22–43.
- Existence of optimal strategies in zero-sum nonstationary stochastic games with lack of information on both sides. SIAM J. Control Optim. 27 (1989), no. 2, 289–295.
- On the weak topology on a space of probability measures induced by policies. Bull. Polish Acad. Sci. Math. 36 (1988), no. 3-4, 181–186.
- Nonrandomized strategy equilibria in noncooperative stochastic games with additive transition and reward structure. J. Optim. Theory Appl. 52 (1987), no. 3, 429–441.
- Semicontinuous nonstationary stochastic games. J. Math. Anal. Appl. 117 (1986), no. 1, 84–99.
- Existence of equilibrium stationary strategies in discounted noncooperative stochastic games with uncountable state space. J. Optim. Theory Appl. 45 (1985), no. 4, 591–602.
- Measurable selection theorems for minimax stochastic optimization problems. SIAM J. Control Optim. 23 (1985), no. 3, 466–476.
- Universally measurable strategies in zero-sum stochastic games. Ann. Probab. 13 (1985), no. 1, 269–287.
- On zero-sum stochastic games with general state space. II. Probab. Math. Statist. 4 (1984), no. 2, 143–152.
- On zero-sum stochastic games with general state space. I. Probab. Math. Statist. 4 (1984), no. 1, 13–32.
- Approximation theorems for zero-sum nonstationary stochastic games. Proc. Amer. Math. Soc. 92 (1984), no. 3, 418–424.