

**List of Publications**  
**Gustav Feichtinger**

\* Book or Journal Issue

**1967**

Über die Anzahl aller nichtisomorphen transitiven Automaten von Primzahlordnung. *Elektronische Informationsverarbeitung und Kybernetik* **3**, 275-282.

Beiträge zur Theorie abstrakter Automaten. *Elektronische Datenverarbeitung* **8**, 361-366.

Über isomorphe Unterautomaten in abstrakten Automaten. *Elektronische Datenverarbeitung* **9**, 411-415.

**1968**

Der Quotientenautomat nach einem direkten Faktor einer Automorphismengruppe. *Computing* **3**, 1-8.

Zur Theorie abstrakter stochastischer Automaten. *Zeitschrift für Wahrscheinlichkeitstheorie und verwandte Gebiete* **9**, 341-356.

Automatentheorie und dynamische Programmierung. *Elektronische Informationsverarbeitung und Kybernetik* **4**, 347-352.

Eine automatentheoretische Deutung des einelementigen Lernmodells der Stimulus Sampling Theorie. *Grundlagenstudien aus Kybernetik und Geisteswissenschaft* **9**, 3-19.

Ein automatentheoretischer Zugang zu Lernprozessen. *Kybernetik* **5**, 85-88.

Zur mathematischen Lerntheorie. *Grundlagenstudien aus Kybernetik und Geisteswissenschaft* **9**, 39-47.

**1969**

Stochastische Automaten als Grundlage linearer Lernmodelle. *Statistische Hefte* **10**, 5-21.

Optimale Darbietungen (Lernstrategien) zweier Items in der statistischen Lerntheorie. *Elektronische Informationsverarbeitung und Kybernetik* **5**, 109-125.

Ein Markoffsches Lernmodell für Zwei-Personen-Spiele. *Elektronische Datenverarbeitung* **7**, 322-325.

Anwendungen der Automatentheorie auf Lernprozesse. 2. Internationaler Kongreß *Datenverarbeitung im europäischen Raum*, 17-21.

Endliche stochastische Automaten als Modelle in den Verhaltenswissenschaften. *Seminarbericht 17 des Instituts für Theorie der Automaten und Schaltnetzwerke*, GMD Bonn.

**1970**

\* *Lernprozesse in stochastischen Automaten*. 'Lecture Notes in Operations Research and Mathematical Systems', Vol. **24**, Springer, Berlin.

Einige Resultate aus der Bevölkerungsmathematik. In: R. Henn (Ed.), '*Operations Research Verfahren VIII*'. Hain, Meisenheim, 89-106.

Über ein Entscheidungsproblem in der Erziehungsplanung. *Unternehmensforschung* **14**, 140-151.

Kybernetische Begriffe und Arbeitsweisen in der Lerntheorie. *Zeitschrift für experimentelle und angewandte Psychologie* **17**, 37-51.

Zur Erlernung optimalen Verhaltens in Entscheidungssituationen. *Statistische Hefte* **12**, 14-21.

BAYES-Automaten. *Elektronische Informationsverarbeitung und Kybernetik* **6**, 371-379.

Über Automatenmodelle in der statistischen Lerntheorie. *Kybernetik* **6**, 237-242.

Gekoppelte stochastische Automaten und sequentielle Zwei-Personen-Spiele. *Unternehmensforschung* **14**, 249-258.

Bemerkungen zum Thema Astrologie und Statistik. *Philosophia Naturalis* **12**, 104-115.

## 1971

\* *Stochastische Modelle demographischer Prozesse*. 'Lecture Notes in Operations Research and Mathematical Systems', Vol. **44**, Springer, Berlin.

"Wahrscheinlichkeitslernen" in der statistischen Lerntheorie. *Metrika* **18**, 35-55.

Zur Erlernung optimalen Verhaltens in Entscheidungssituationen bei Ungewißheit. *Statistische Hefte* **12**, 14-21.

Stochastische Automaten mit stetigem Zeitparameter. *Angewandte Informatik* **4**, 156-164.

Über Lernprozesse mit variabler Transitionsstruktur in Entscheidungssituationen bei Ungewißheit. *Jahrbücher für Nationalökonomie und Statistik* **186**, 14-28.

Absorbing Markov chains in population mathematics. *Proceedings of the 38th Session of the International Statistical Institute*, Washington, D.C.

Markoff-Modelle zur sozialen Mobilität. *Jahrbuch für Sozialwissenschaft* **22**, 300-316.

Automatentheoretische Lernmodelle. *Umschau in Wissenschaft und Technik* **71**, 166.

Bevölkerungswissenschaft vor neuen Problemen. *Umschau in Wissenschaft und Technik* **71**, 596-597.

## 1972

Über Sinn und Ziel der Kybernetik. In: J. Meurers (Hrsg.), '*Philosophia naturalis 13*'. Hain, Meisenheim, 185-190.

Über die Kovarianzen von Maximum Likelihood-Schätzungen gewisser Parameter bei multiplen Dekrementtafeln. *Mathematische Operationsforschung und Statistik* **3**, 217-226.

Über ein N-elementiges Modell der Reiz-Stichproben-Theorie mit stetigem Zeitparameter und zwei Antwortklassen. *Metrika* **18**, 94-109.

Stochastische Dekrementmodelle der Bevölkerungsstatistik. *Biometrische Zeitschrift* **14**, 106-125.

Zur Bayes-Analyse statistischer Entscheidungsprobleme. *Zeitschrift für Betriebswirtschaft* **7**, 42. Jg.

Neue Entwicklungen der formalen Demographie I. *Mitteilungsblatt der Österreichischen Gesellschaft für Statistik und Informatik* **5**, 23-29.

Neue Entwicklungen der formalen Demographie II. *Mitteilungsblatt der Österreichischen Gesellschaft für Statistik und Informatik* **6**, 53-64.

Stochastische Prozesse im Lichte ihrer Anwendungen. *Angewandte Informatik* **3**, 104-114.

### 1973

\* *Bevölkerungsstatistik*. de Gruyter, Berlin.

Markovian models for some demographic processes. *Statistische Hefte* **4**, 311-334.

Bemerkungen über lineare Modelle der Populationsdynamik. In: R. Henn (Ed.), 'Operations Research-Verfahren XV'. Hain, Meisenheim, 40-62 (with M. Deistler).

On the linear stochastic model in population dynamics. *Proceedings of the 39th Session of the International Statistical Institute* **4**, 301-306 (with M. Deistler).

### 1974

OR-Modelle sozio-demographischer Prozesse. In: P. Gessner et al., 'Proceedings in Operations Research 3'. Physica, Würzburg, 195-229.

Bemerkungen über stochastische Modelle der Straffälligkeit. *Allgemeines Statistisches Archiv* **58**, 198-221.

Einblicke in bevölkerungsmathematische Modelle und deren Anwendungsmöglichkeiten. *Jahrbuch für Sozialwissenschaft* **25**, 86-105.

Stochastische Modelle des Manpower Planning. *Antrittsvorlesung an der TH Wien*, Nr. **42**, TH Wien.

Von der Bevölkerungsstatistik zur demographischen Forschung. *Mitteilungsblatt der Österreichischen Gesellschaft für Statistik und Informatik* **13**, 15-36.

Nullwachstum der Bevölkerung frühestens in 100 Jahre. *Umschau in Wissenschaft und Technik* **74**, 551-552.

The linear model formulation of a multitype branching process applied to population dynamics. *Journal of the American Statistical Association* **69**, 662-664 (with M. Deistler).

Über ein Verzweigungsprozeßmodell zur Trägheit des Bevölkerungswachstums. Paper des Instituts für Ökonometrie und Operations Research, Universität Bonn (with M. Deistler).

### 1975

Bemerkungen über Wahrscheinlichkeitsmodelle für rekurrente demographische Prozesse. *Zeitschrift für Bevölkerungswissenschaft* **3/4**, 57-72.

Weltbevölkerungsjahr, -Konferenz und - Aktionsplan 1974. *Jahrbuch für Sozialwissenschaft* **26**, 123-137.

Die demographische Revolution. *Österreichische Gesellschaft für Familienplanung*, Jahrestagung in Igls.

Nullwachstum der Bevölkerung im linearen populationsdynamischen Modell. *Zeitschrift für Bevölkerungswissenschaft* **2**, 39-53 (with M. Deistler).

### 1976

Are economically dependent groups likely to become a significant larger proportion of the population as a whole? In: '*Proceedings of the Colloque on the Changing Population Structures in Europe and Rising Social Costs*'. Council of Europe, Strasbourg.

Some economic consequences of declining fertility in the Federal Republic of Germany. In: '*Les Methodes d'Analyse en Demographie Economique, Dossiers et recherches* **1**'. Institut National d'Etudes Demographiques, Paris.

Stabile Populationsdynamik. In: R. Henn (Ed.), '*Operations Research Verfahren XXV*'. Hain, Meisenheim, 434-442.

On the generalization of stable age distributions to Gani-type manpower models. *Advances in Applied Probability* **8**, 433-445.

The recruitment trajectory corresponding to particular stock sequences in Markovian person-flow models. *Mathematics of Operations Research* **1**, 175-184 (with A. Mehlmann).

### 1977

\* *Stationäre und schrumpfende Bevölkerungen. Demographisches Null- und Negativwachstum in Österreich*. 'Lecture Notes in Economics and Mathematical Systems', Vol. **149**, Springer, Berlin (Ed.).

Ursachen und Konsequenzen des Geburtenrückganges. In: '*Soziale Probleme der modernen Industriegesellschaft*'. Arbeitstagung des Vereins für Socialpolitik in Augsburg 1976. Duncker & Humblot, Berlin, 393-434.

Methodische Probleme der Familienlebenszyklus-Statistik. In: H. Albach, Helmstädter und R. Henn (Ed.), '*Quantitative Wirtschaftsforschung*'. Wilhelm Krelle zum 60. Geburtstag, Mohr, Tübingen.

Bevölkerung. In: W. Albers et al. (Ed.), '*Handwörterbuch der Wirtschaftswissenschaft (HdWW)*'. G. Fischer, Stuttgart, 610-631.

Bevölkerungsmodelle. *Allgemeines Statistisches Archiv* **4**, 325-348.

Aussichten für das Erwerbspotential und den Anteil wirtschaftlich abhängiger Personen in europäischen Bevölkerungen. *Schriftenreihe des Instituts für Demographie der Österreichischen Akademie der Wissenschaften* **2**.

The impact of mortality on the life cycle of the family in Austria. *Zeitschrift für Bevölkerungswissenschaft* **4**, 51-79 (with H. Hansluwka).

Bevölkerungsschrumpfung in Österreich. Konsequenzen rückläufiger Fruchtbarkeit für die demographische Entwicklung. *Schriftenreihe des Instituts für Demographie der Österreichischen Akademie der Wissenschaften* **3** (with J. Muzicant).

### 1978

Optimales Wachstum stabiler Bevölkerungen in einem neoklassischen Modell. *Zeitschrift für Bevölkerungswissenschaft* **1**, 63-73 (with M. Deistler, M. Luptacik and A. Wörgötter).

Analyse der Fertilitätsentwicklung in Österreich nach Heiratsjahrgängen. *Schriftenreihe des Instituts für Demographie der Österreichischen Akademie der Wissenschaften* **5** (with A. Haslinger).

Pseudostabile Bevölkerungen: Populationsdynamik bei gleichmäßig sinkender Fertilität. *Schriftenreihe des Instituts für Demographie der Österreichischen Akademie der Wissenschaften* **4** (with H. Vogelsang).

Zur demographischen Translation I. Beziehungen zwischen Perioden- und Kohortenmessung demographischer Prozesse. Forschungsbericht **12** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with H. Vogelsang).

Population Dynamics with Declining Fertility. I and II. Forschungsbericht **15** und **16** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with H. Vogelsang).

### 1979

\* *Demographische Analyse und populationsdynamische Modelle: Grundzüge der Bevölkerungsmathematik*. Springer, Wien.

Cohort trends in the timing of the family life cycle in Austria and West-Germany. In: J. Dupâquier et al. (Eds.), *'Historische Demographie'*. Paris.

Optimale intertemporale Allokationen mittels des Maximumprinzips. In: J. Schwarze et al. (Eds.), *'Proceedings in Operations Research 9'*. Physica, Würzburg, 484-489.

Analyse des Familienzyklus auf demographischer Basis. In: *'Bericht über die Situation der Familie in Österreich'*. Familienbericht **1**, Bundeskanzleramt Wien.

Von sinkender zu steigender Fertilität: Bevölkerungsdynamik bei einer Trendumkehr der Fruchtbarkeit. *Zeitschrift für Bevölkerungswissenschaft* **3**, 327-340.

Zum Begriff "Schwung des Bevölkerungswachstums". *Jahrbücher für Nationalökonomie und Statistik* **194**, 399-400.

Exponentielle Niveau- und Musteränderung der Fertilität. Eine Analyse mittels stabiler Vergleichsbevölkerungen. *Zeitschrift für Bevölkerungswissenschaft* **1**, 31-63 (with H. Vogelsang).

### 1980

Optimale Politiken in kontrolltheoretischen Instandhaltungsmodellen. Forschungsbericht **25** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien.

### 1981

Optimale Allokation von Ausbildung und Berufsausübung in einem nichtlinearen Kontrollmodell. *Zeitschrift für Operations Research* **25**, 25-34.

Optimierung von Instandhaltungsinvestitionen, Produktionsintensität und Nutzungsdauer maschineller Produktionsanlagen: Anwendungen der Kontrolltheorie in der Instandhaltungs- und Produktionsplanung. In: K. Brockhoff und W. Krelle (Eds.), '*Unternehmensplanung*'. Springer, Berlin, 213-234.

A noncooperative solution of a simple pollution differential game. Forschungsbericht **34** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien.

Nash-Lösungen zustandsseparabler Nichtnullsummen Differentialspiele. Forschungsbericht **41** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien.

Ein nichtlineares Kontrollproblem der Instandhaltung. *OR-Spektrum* **3**, 49-58 (with R.F. Hartl).

## 1982

\* *Optimal Control Theory and Economic Analysis*. First Viennese Workshop on Economic Applications of Control Theory, Vienna, October 28 - 30, 1981, North-Holland, Amsterdam (Ed.).

Saddle-point analysis in a price-advertising model. *Journal of Economic Dynamics and Control* **4**, 319-340.

Optimal repair policy for a machine service problem. *Optimal Control Applications and Methods* **3**, 15-22.

Optimal pricing in a diffusion model with nonlinear price-dependent market potential. *Operations Research Letters* **1**, 236-240.

Anwendungen des Maximumprinzips im Operations Research. Teil 1 und 2. *OR-Spektrum* **4**, 171-190, 195-212.

The Nash solution of a maintenance-production differential game. *European Journal of Operational Research* **10**, 165-172.

Optimal research policies in a noncooperative project undertaken by two firms. In: G. Feichtinger (Hrsg.), '*Optimal Control Theory and Economic Analysis*'. North-Holland, Amsterdam, 373-397.

Optimal bimodal harvest policies in age-specific bioeconomic models. In: G. Feichtinger und P. Kall (Eds.), '*Operations Research in Progress*'. Reidel, Dordrecht, 285-299.

Ein Differentialspiel für den Markteintritt einer Firma. In: B. Fleischmann et al. (Eds.), '*Operations Research Proceedings 1981*'. Springer, Berlin, 636-644.

\* *Operations Research in Progress*. Reidel, Dordrecht (with P. Kall, Eds.).

## 1983

Optimale dynamische Preispolitik bei drohender Konkurrenz. *Zeitschrift für Betriebswirtschaft* **53**, 155-177.

The Nash solution of an advertising differential game: Generalization of a model by Leitmann and Schmitendorf. *IEEE Transactions on Automatic Control* **AC-28**, 1044-1048.

A differential games solution to a model of competition between a thief and the police. *Management Science* **29**, 686-699.

Pseudostabile Bevölkerungen. In: S. Rupp und K. Schwarz (Eds.), *Beiträge aus der bevölkerungswissenschaftlichen Forschung*. Festschrift für Hermann Schubnell, Schriftenreihe des Bundesinstituts für Bevölkerungsforschung **11**, 535-544.

Differential game models in management science. *European Journal of Operational Research* **14**, 137-155 (with S. Jorgensen).

Eine Fruchtbarkeitstafel auf Paritätsbasis. *Zeitschrift für Bevölkerungswissenschaft* **3**, 363-376 (with W. Lutz).

#### **1984**

Optimal employment strategies of profit-maximizing and labour-managed firms. *Optimal Control Applications and Methods* **5**, 235-253.

On the synergistic influence of two control variables on the state of nonlinear optimal control models. *Journal of Operational Research Society* **35**, 907-914.

On optimal control models for the dynamics of the firm. In: R. Henn (Eds.), '*Methods of Operations Research* **51**'. Hain, Athenäum.

A note to Jorgensen's logarithmic advertising differential game. *Zeitschrift für Operations Research* **28**, B 133-B 153 (with E.J. Dockner).

Strategic Advertising and Price Management under Dynamic Conditions. Forschungsbericht **76** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with E.J. Dockner).

Hiring/Firing vs Overtime/Short-Time Working in a Dynamic Firm. Forschungsbericht **72** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with R.F. Hartl and M. Luptacik).

Alterstruktureffekt bei der Schätzung schließlicher Paritätsverteilungen. In: C. Höhn et al. (Eds.), '*Demographie in der Bundesrepublik Deutschland*'. Festschrift für Karl Schwarz. Boppard, H. Boldt (with W. Lutz).

Lagerhaltungs- und Beschäftigungsstrategien einer Firma. *OR-Spektrum* **6**, 93-107 (with A. Steindl).

#### **1985**

\* *Optimal Control Theory and Economic Analysis* 2. Second Viennese Workshop on Economic Applications of Control Theory, Vienna, May 16 - 18, 1984, North-Holland, Amsterdam (Ed.).

Optimal modification of machine reliability by maintenance and production. *OR-Spektrum* **7**, 43-50.

Optimal pricing in a duopoly: a noncooperative differential games solution. *Journal of Optimization Theory and Applications* **45**, 199-218 (with E.J. Dockner).

Optimal pricing and production in an inventory model. *European Journal of Operational Research* **19**, 45-56 (with R.F. Hartl).

On the use of Hamiltonian and maximized Hamiltonian in non-differentiable control theory. *Journal of Optimization Theory and Applications* **46**, 493-504 (with R.F. Hartl).

Tractable classes of nonzero-sum open-loop Nash differential games: theory and examples. *Journal of Optimization Theory and Applications* **45**, 179-197 (with E.J. Dockner and S. Jorgensen).

Ein dynamisches Mischungsproblem. Forschungsbericht **79** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with G. Sorger).

## 1986

Production-pollution cycles. Forschungsbericht **95** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien.

Periodic optimal control: can oscillations be optimal in autonomous economic control models? In: W. Domschke et al. (Eds.), '*Methods of Operations Research 57*'. Athenäum, Königstein, 349-366.

Dynamic advertising and pricing in an oligopoly: a Nash equilibrium approach. *Journal of Economic Dynamics and Control* **10**, 37-39 (with E.J. Dockner).

On the Value of Information in Dynamic Games of R & D. Forschungsbericht **85** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with E.J. Dockner and A. Mehlmann).

\* *Optimale Kontrolle ökonomischer Prozesse: Anwendungen des Maximumprinzips in den Wirtschaftswissenschaften*. de Gruyter, Berlin (with R.F. Hartl).

The dynamic Averch-Johnson effect revisited. Forschungsbericht **83** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with R.F. Hartl and M. Luptacik).

On the optimality of cyclical employment policies: a numerical investigation. *Journal of Economic Dynamics and Control* **10**, 457-466 (with R.F. Hartl, G. Sorger and A. Steindl).

Planning the unusual: applications of control theory to nonstandard problems. *Acta Applicandae Mathematicae* **7**, 79-102 (with A. Mehlmann).

On the exploitation of curious resources. In: M.J. Beckmann et al. (Eds.), '*Methods in Operations Research 54*'. Hain, Athenäum, 127-145 (with A. Mehlmann).

Optimal oscillations in control models: how can constant demand lead to cyclical production? *Operations Research Letters* **5**, 277-281 (with G. Sorger).

Optimale Dauer und Verteilung von Arbeitspausen. Forschungsbericht **97** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with G. Sorger and A. Novak).

## 1987

Limit cycles in economic control models. In: R. Bulirsch et al. (Eds.), '*Optimal Control*'. Proceedings of the Conference on Optimal Control and Variational Calculus Oberwolfach, West-Germany, June 15-21, 1986. Springer, Berlin, 46-55.

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Zur Anwendung der Kontrolltheorie auf die Optimierung ökonomischer Prozesse. In: Th. Fischer (Ed.), '*Betriebswirtschaftliche Systemforschung und ökonomische Kybernetik*'. Duncker & Humblot, Berlin, 271-289.

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Optimal production and abatement policies of a firm. *European Journal of Operational Research* **29**, 274-285 (with M. Luptacik).

Optimal employment and wage policies of a monopolistic firm. *Journal of Optimization Theory and Applications* **53**, 59-83 (with M. Luptacik).

Intertemporal sharecropping: a differential game approach. In: G. Bamberg and K. Spremann (Eds.), '*Agency Theory, Information and Incentives*'. Springer, Berlin, 415-438 (with G. Sorger).

## 1988

\* *Optimal Control Theory and Economic Analysis 3*. Third Viennese Workshop on Optimal Control Theory and Economic Analysis, Vienna, May 20 - 22, 1987, North-Holland, Amsterdam (Ed.).

Optimal persistent oscillations and adjustment costs. In: P. Flaschel and M. Krüger (Eds.), '*Recent Approaches to Economic Dynamics*'. P. Lang, Frankfurt, 119-131.

Ein dynamisches Modell des Intensitätssplittings. *Zeitschrift für Betriebswirtschaft* **11**, 1242-1258 (with K.-P. Kistner and A. Luhmer).

Optimal price and advertising policy in convenience goods retailing. *Marketing Science* **7**, 187-201 (with A. Luhmer and G. Sorger).

ADPULS in continuous time. *European Journal of Operational Research* **34**, 171-177 (with A. Luhmer, A. Steindl, R.F. Hartl and G. Sorger).

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## 1989

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A note on optimal redistributive taxation. Forschungsbericht **119** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with E.J. Dockner).

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### 1990

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### 1991

On the optimality of limit cycles in dynamic economic systems. *Journal of Economics* **53**, 31-50 (with E.J. Dockner).

\* *Methods of Operations Research: OR 1990, International Conference on Operations Research 1990 in Vienna*. Anton Hain, Frankfurt (with R.F. Hartl, W. Janko, W.E. Katzenberger and A. Stepan, Eds.).

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### 1992

\* *Dynamic Economic Models and Optimal Control*. North-Holland, Amsterdam (Ed.).

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Optimal control of economic systems. In: S. Tzafestas (Ed.), 'Automatic Control Handbook'. M. Dekker, New York, 1023-1044.

Limit cycles in dynamic economic systems. In: G. Feichtinger and R.F. Hartl (Eds.), '*Nonlinear Methods in Economic Dynamics and Optimal Control*'. Annals of Operations Research **37**. Baltzer, Basel, 313-344.

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Does society gain from the actions of environmentalists? Forschungsbericht **143** des Instituts für Ökonometrie, OR und Systemtheorie, TU Wien (with E.J. Dockner).

\* *Nonlinear Methods in Economic Dynamics and Optimal Control*. Annals of Operations Research **37**, Baltzer, Basel (with R.F. Hartl, Eds.).

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