jordan algebra

jordan algebra is a significant area of mathematics that extends the concepts of algebra into more complex structures. It is particularly important in the study of non-associative algebras, and its applications are pivotal in various branches of mathematics and theoretical physics. This article will explore the fundamental aspects of Jordan algebra, including its definition, properties, applications, and connections to other mathematical concepts. We will also discuss how Jordan algebras are utilized in quantum mechanics and their relevance to modern algebraic structures. By the end of this article, readers will gain a comprehensive understanding of Jordan algebra and its significance in both pure and applied mathematics.

Introduction to Jordan Algebra

Jordan algebra is a type of algebraic structure that is defined by a binary operation that satisfies certain axioms. Unlike traditional associative algebras, Jordan algebras are non-associative, which means that the order of operations can affect the outcome. The primary operation in a Jordan algebra is often denoted as a product, and it is characterized by the following properties: commutativity and the Jordan identity. The Jordan identity states that for any elements x and y in the algebra, the expression $x^2y = xy^2$ holds true.

The study of Jordan algebras was initiated by the mathematician Jordan in the early 20th century, and it has since evolved into a rich field of mathematical inquiry. Researchers have found that Jordan algebras can be used to model various physical systems and have implications in fields such as quantum mechanics, where they help describe the structure of observables.

Historical Background

The concept of Jordan algebras was first introduced by the German mathematician Pascual Jordan in 1933. He proposed these structures while studying the foundations of quantum mechanics. The original motivation was to find a suitable algebraic framework to describe quantum observables that would not conform to traditional associative algebra.

The historical development of Jordan algebras can be divided into several key phases:

- **1930s:** Introduction of the concept by Pascual Jordan and exploration of its basic properties.
- **1940s:** Further development of the theory, including classification of finite-dimensional Jordan algebras.
- **1960s:** Connections with Lie algebras and representation theory were established.
- **1980s and beyond:** Application of Jordan algebras to various scientific fields, including quantum physics and algebraic geometry.

These phases highlight the evolution of Jordan algebras from a theoretical construct to a practical tool used across multiple disciplines.

Fundamental Properties of Jordan Algebras

To understand Jordan algebras fully, it is essential to examine their defining properties. The following characteristics are crucial:

Commutativity

In a Jordan algebra, the product operation is commutative. This means that for any two elements \(x \) and \(y \), the following holds:

$xy = yx$

This property is significant as it simplifies many algebraic manipulations and aligns with the behavior of observable quantities in quantum mechanics.

Jordan Identity

The Jordan identity is a fundamental aspect of Jordan algebras. It asserts that for any elements x and y:

$x^2y = xy^2$

This identity ensures that the structure retains certain symmetry properties, making it well-suited for applications in physics and other mathematical frameworks.

Associative Subalgebras

Every Jordan algebra contains associative subalgebras. This means that within any Jordan algebra, one can find subsets of elements that do adhere to the associative property. This connection to associative algebras provides a pathway for further analysis and applications.

Examples of Jordan Algebras

There are several well-known examples of Jordan algebras that illustrate their properties and applications:

- **Matrix Algebras:** The set of self-adjoint operators on a Hilbert space forms a Jordan algebra under the operation of taking the product of operators followed by symmetrization.
- **Polynomials:** The set of polynomials in one variable can be endowed with a Jordan algebra structure by defining the product as $f \cdot g = \frac{1}{2}(f g + g f)$.
- **Symmetric Spaces:** Certain symmetric spaces can be described using Jordan algebras, particularly in the context of their geometric properties.

These examples showcase the diversity of Jordan algebras and their ability to encapsulate various mathematical phenomena.

Applications of Jordan Algebras

Jordan algebras have found numerous applications in both theoretical and applied mathematics, particularly in fields such as physics and computer science. Here are some notable applications:

Quantum Mechanics

In quantum mechanics, observables such as position and momentum do not always follow associative algebra rules. Jordan algebras provide a framework to describe these observables, which helps in constructing quantum theories that accurately reflect physical realities.

Geometry

Jordan algebras also play a significant role in geometry, particularly in the study of symmetric spaces and homogeneous spaces. They provide a way to analyze the geometric structure and symmetries of various mathematical objects.

Representation Theory

The representation theory of Jordan algebras allows mathematicians to study how these algebras can be represented as linear transformations. This is crucial for understanding the underlying structure of various algebraic systems and their interactions.

Relation to Other Algebraic Structures

Jordan algebras are connected to several other algebraic structures, which enhances their utility in mathematical research.

Lie Algebras

Jordan algebras are closely related to Lie algebras, particularly in the context of their representation theory. The relationship allows for a better understanding of the symmetries and transformations within algebraic systems.

Associative Algebras

As mentioned earlier, every Jordan algebra has associated associative subalgebras. This relationship often facilitates the transfer of results and techniques from associative algebra to Jordan algebra, enriching both fields.

Non-associative Algebras

Jordan algebras are a special case of non-associative algebras. Studying their properties can yield insights into more general non-associative structures, which are important in various mathematical theories.

Conclusion

Jordan algebra is a sophisticated and essential area of mathematics with profound implications across several fields. Its unique properties, such as commutativity and the Jordan identity, set it apart from traditional algebraic structures and enable its application in quantum mechanics, geometry, and representation theory. As research continues to evolve, the relevance of Jordan algebras is expected to expand, influencing both theoretical and applied mathematics. Understanding Jordan algebras not only enriches one's mathematical knowledge but also opens doors to innovative applications in science and technology.

Q: What is the primary operation in Jordan algebra?

A: The primary operation in Jordan algebra is a binary product that is commutative and satisfies the Jordan identity.

Q: Who introduced Jordan algebras and when?

A: Jordan algebras were introduced by the German mathematician Pascual Jordan in 1933.

Q: How are Jordan algebras used in quantum mechanics?

A: Jordan algebras provide a framework to describe non-associative structures of observables, allowing for more accurate modeling of quantum systems.

Q: Can you give an example of a Jordan algebra?

A: An example of a Jordan algebra is the set of self-adjoint operators on a Hilbert space, which forms a Jordan algebra under the operation of symmetrization.

Q: What is the Jordan identity?

A: The Jordan identity states that for any elements \(x \) and \(y \) in the algebra, the equation \(x^2y = xy^2 \) must hold.

Q: What are the applications of Jordan algebras?

A: Jordan algebras are applied in quantum mechanics, geometry, and representation theory, among other fields.

Q: How do Jordan algebras relate to Lie algebras?

A: Jordan algebras are closely related to Lie algebras, particularly in representation theory, helping to understand symmetries within algebraic systems.

Q: Are Jordan algebras associative?

A: No, Jordan algebras are non-associative, meaning that the order of operations can affect the outcome.

Q: What are associative subalgebras in Jordan algebras?

A: Associative subalgebras in Jordan algebras are subsets of elements that obey associative properties, allowing for easier manipulation and analysis.

Jordan Algebra

jordan algebra: *Statistical Applications of Jordan Algebras* James D. Malley, 2012-12-06 This monograph brings together my work in mathematical statistics as I have viewed it through the lens of Jordan algebras. Three technical domains are to be seen: applications to random quadratic forms (sums of squares), the investigation of algebraic simplifications of maxi mum likelihood estimation of patterned covariance matrices, and a more wide open mathematical exploration of the algebraic arena from which I have drawn the results used in the statistical problems just mentioned. Chapters 1, 2, and 4 present the statistical outcomes I have developed using the algebraic results that appear, for the most part, in Chapter 3. As a less daunting, yet quite efficient, point of entry into this material, one avoiding most of the abstract algebraic issues, the reader may use the first half of Chapter 4. Here I present a streamlined, but still fully rigorous, definition of a Jordan algebra (as it is used in that chapter) and its essential properties. These facts are then immediately applied to simplifying the M:-step of the EM algorithm for multivariate normal covariance matrix estimation, in the presence of linear constraints, and data missing completely at random. The results presented essentially resolve a practical statistical quest begun by Rubin and Szatrowski [1982], and continued, sometimes implicitly, by many others. After this, one could then return to Chapters 1 and 2 to see how I have attempted to generalize the work of Cochran, Rao, Mitra, and others, on important and useful properties of sums of squares.

jordan algebra: *Structure and Representations of Jordan Algebras* Nathan Jacobson, 1968-12-31 The theory of Jordan algebras has played important roles behind the scenes of several areas of mathematics. Jacobson's book has long been the definitive treatment of the subject. It covers foundational material, structure theory, and representation theory for Jordan algebras. Of course, there are immediate connections with Lie algebras, which Jacobson details in Chapter 8. Of particular continuing interest is the discussion of exceptional Jordan algebras, which serve to explain the exceptional Lie algebras and Lie groups. Jordan algebras originally arose in the attempts by Jordan, von Neumann, and Wigner to formulate the foundations of quantum mechanics. They are still useful and important in modern mathematical physics, as well as in Lie theory, geometry, and certain areas of analysis.

jordan algebra: *Jordan Algebras and Algebraic Groups* Tonny A. Springer, 1997-12-11 From the reviews: This book presents an important and novel approach to Jordan algebras. [...] Springer's work will be of service to research workers familiar with linear algebraic groups who find they need to know something about Jordan algebras and will provide Jordan algebraists with new techniques and a new approach to finite-dimensional algebras over fields. American Scientist

jordan algebra: A Taste of Jordan Algebras Kevin McCrimmon, 2003-11-14 This book describes the history of Jordan algebras and describes in full mathematical detail the recent structure theory for Jordan algebras of arbitrary dimension due to Efim Zel'manov. Jordan algebras crop up in many surprising settings, and find application to a variety of mathematical areas. No knowledge is required beyond standard first-year graduate algebra courses.

jordan algebra: The Minnesota Notes on Jordan Algebras and Their Applications Max Koecher, 1999-09-17 This volume contains a re-edition of Max Koecher's famous Minnesota Notes. The main objects are homogeneous, but not necessarily convex, cones. They are described in terms of Jordan algebras. The central point is a correspondence between semisimple real Jordan algebras and so-called omega-domains. This leads to a construction of half-spaces which give an essential part of all bounded symmetric domains. The theory is presented in a concise manner, with only elementary prerequisites. The editors have added notes on each chapter containing an account of the relevant developments of the theory since these notes were first written.

jordan algebra: Jordan Structures in Lie Algebras Antonio Fernández López, 2019-08-19 Explores applications of Jordan theory to the theory of Lie algebras. After presenting the general theory of nonassociative algebras and of Lie algebras, the book then explains how properties of the Jordan algebra attached to a Jordan element of a Lie algebra can be used to reveal properties of the Lie algebra itself.

jordan algebra: Jordan Algebras in Analysis, Operator Theory, and Quantum Mechanics Harald Upmeier, 1987-01-01

jordan algebra: A Taste of Jordan Algebras Kevin McCrimmon, 2006-05-29 This book describes the history of Jordan algebras and describes in full mathematical detail the recent structure theory for Jordan algebras of arbitrary dimension due to Efim Zel'manov. Jordan algebras crop up in many surprising settings, and find application to a variety of mathematical areas. No knowledge is required beyond standard first-year graduate algebra courses.

jordan algebra: *The Arithmetics of Quadratic Jordan Algebras* Michel L. Racine, 1973 The first step in obtaining an arithmetic theory for finite dimensional quadratic Jordan algebras over the quotient field of a Dedekind ring is the determination of maximal orders. This is the main concern of this paper. Jordan analogues of some of the first theorems in classical associative arithmetic are obtained. For special quadratic Jordan algebras, the problem of determining maximal orders is reduced to arithmetic questions in quadratic forms and associative algebras with involution. The number of isomorphism classes of maximal orders is computed for most central simple quadratic Jordan algebras over a local field. In the process, previous results of Knebusch are obtained in a uniform fashion and are extended to the case of algebras over fields of characteristic 2 and 3.

jordan algebra: The Geometry of Jordan and Lie Structures Wolfgang Bertram, 2000-12-12 The geometry of Jordan and Lie structures tries to answer the following question: what is the integrated, or geometric, version of real Jordan algebras, - triple systems and - pairs? Lie theory shows the way one has to go: Lie groups and symmetric spaces are the geometric version of Lie algebras and Lie triple systems. It turns out that both geometries are closely related via a functor between them, called the Jordan-Lie functor, which is constructed in this book. The reader is not assumed to have any knowledge of Jordan theory; the text can serve as a self-contained introduction to (real finite-dimensional) Jordan theory.

jordan algebra: Jordan Algebras of Self-Adjoint Operators David M. Topping, 1965

jordan algebra: *Jordan Operator Algebras* Harald Hanche-Olsen, Erling Størmer, 1984

jordan algebra: *An Introduction to Nonassociative Algebras* Richard D. Schafer, 2017-11-15 Concise graduate-level introductory study presents some of the important ideas and results in the theory of nonassociative algebras. Places particular emphasis on alternative and (commutative) Jordan algebras. 1966 edition.

jordan algebra: *Graded Simple Jordan Superalgebras of Growth One* Victor G. Kac, Consuelo Martinez, Efim Zelmanov, 2001 This title examines in detail graded simple Jordan superalgebras of growth one. Topics include: structure of the even part; Cartan type; even part is direct sum of two loop algebras; A is a loop algebra; and J is a finite dimensional Jordan superalgebra or a Jordan superalgebra of a superform.

jordan algebra: Operator Algebras and Quantum Statistical Mechanics 1 Ola Bratteli, Derek W. Robinson, 1987-05-27 This is the first of two volumes presenting the theory of operator algebras with applications to quantum statistical mechanics. The authors' approach to the operator theory is to a large extent governed by the dictates of the physical applications. The book is self-contained and most proofs are presented in detail, which makes it a useful text for students with a knowledge of basic functional analysis. The introductory chapter surveys the history and justification of algebraic techniques in statistical physics and outlines the applications that have been made. The second edition contains new and improved results. The principal changes include: A more comprehensive discussion of dissipative operators and analytic elements; the positive resolution of the question of whether maximal orthogonal probability measure on the state space of C-algebra were automatically maximal along all the probability measures on the space.

jordan algebra: *Non-Associative Normed Algebras* Miguel Cabrera García, Ángel Rodríguez Palacios, 2018-04-12 The first systematic account of the basic theory of normed algebras, without assuming associativity. Sure to become a central resource.

jordan algebra: *Algebraic Transformation Groups and Algebraic Varieties* Vladimir Leonidovich Popov, 2013-06-29 The book covers topics in the theory of algebraic transformation groups and algebraic varieties which are very much at the frontier of mathematical research.

jordan algebra: Recent Advances in Pure and Applied Mathematics Francisco Ortegón Gallego, Juan Ignacio García García, 2020-04-11 This volume comprises high-quality works in pure and applied mathematics from the mathematical communities in Spain and Brazil. A wide range of subjects are covered, ranging from abstract algebra, including Lie algebras, commutative semigroups, and differential geometry, to optimization and control in real world problems such as fluid mechanics, the numerical simulation of cancer PDE models, and the stability of certain dynamical systems. The book is based on contributions presented at the Second Joint Meeting Spain-Brazil in Mathematics, held in Cádiz in December 2018, which brought together more than 330 delegates from around the world. All works were subjected to a blind peer review process. The book offers an excellent summary of the recent activity of Spanish and Brazilian research groups and will be of interest to researchers, PhD students, and graduate scholars seeking up-to-date knowledge on these pure and applied mathematics subjects.

jordan algebra: *Smarandache Non-Associative Rings* W. B. Vasantha Kandasamy, 2002 Generally, in any human field, a Smarandache Structure on a set A means a weak structure W on A such that there exists a proper subset B in A which is embedded with a stronger structure S. These types of structures occur in our everyday's life, that's why we study them in this book. Thus, as a particular case: A Non-associative ring is a non-empty set R together with two binary operations '+' and '.' such that (R, +) is an additive abelian group and (R, .) is a groupoid. For all a, b, c in R we have (a + b) . c = a . c + b . c and c . (a + b) = c . a + c . b. A Smarandache non-associative ring is a non-associative ring (R, +, .) which has a proper subset P in R, that is an associative ring (with respect to the same binary operations on R).

jordan algebra: Gradings on Simple Lie Algebras Alberto Elduque, Mikhail Kochetov, 2013 Gradings are ubiquitous in the theory of Lie algebras, from the root space decomposition of a complex semisimple Lie algebra relative to a Cartan subalgebra to the beautiful Dempwolff decomposition of E_8 as a direct sum of thirty-one Cartan subalgebras. This monograph is a self-contained exposition of the classification of gradings by arbitrary groups on classical simple Lie algebras over algebraically closed fields of characteristic not equal to 2 as well as on some nonclassical simple Lie algebras in positive characteristic. Other important algebras also enter the stage: matrix algebras, the octonions, and the Albert algebra. Most of the presented results are recent and have not yet appeared in book form. This work can be used as a textbook for graduate students or as a reference for researchers in Lie theory and neighbouring areas. This book is published in cooperation with Atlantic Association for Research in the Mathematical Sciences (AARMS).

Related to jordan algebra

suitable, sustainable use, the state sold it at auction last summer for $1.5 million to Jordan's father, Joe, an asbestos demolition contractor from

City swears in seven new officers | Massachusetts Cop Forum Mayor Robert Correia performs a swearing-in ceremony for seven new police officers at Government Center on Monday. At far right is Iraq war veteran Jordan Silvia. By

Springfield Mayor adds members to civilian review board During a press conference at City Hall, Mayor Domenic J. Sarno and his chief of staff, Denise R. Jordan, presented the city's newly realigned, nine-member Community

'Person of interest' ID'd in S.F. cop's 1988 slaying Jordan said under those circumstances, "It wasn't our prerogative to say we were going to investigate anyway." Walnut Creek's decision to conduct the investigation on its own

Pair arraigned in Dartmouth prom incident | Massachusetts Cop Jordan Todman, 18, of 59 Maine Ave., a former Dartmouth High School athlete headed to the University of Connecticut on a football scholarship, and his girlfriend, Leah

Eligible List for State Police Selection - Eligible list for State Police selection provides details about candidates eligible for recruitment in the state police department

Burned body removed from scene in Hyannis, identified as Re: Burned body removed from scene in Hyannis, identified as a Barnstable High studen Cape Cod boy, 13, accused of killing rival brother STEPHAN SAVOIA/THE

Arrests Made In Connection With 2 Strings Of Burglaries Jordan P. Sandman, 14 Dalton St., is currently being held at Middleton Jail on a probation violation. But Capt. Michael Raiche of the Dover, N.H., police said yesterday he

Red Sox record this year, any guesses? - Jordan's Furniture promised free sofas, chairs and beds to customers who bought between March 7 and April 16, if the Red Sox won the title. Video: Sox Win Could Mean Free

No guns for city court workers | Massachusetts Cop Forum They said it would be easier to hire officers if the pay for court duty was raised from $65 a day. ''Most people can go to McDonald's and get paid more now,'' Jordan said. Last

Asylum's Renaming Insults Advocates | Massachusetts Cop Forum After struggling to find a suitable, sustainable use, the state sold it at auction last summer for $1.5 million to Jordan's father, Joe, an asbestos demolition contractor from

City swears in seven new officers | Massachusetts Cop Forum Mayor Robert Correia performs a swearing-in ceremony for seven new police officers at Government Center on Monday. At far right is Iraq war veteran Jordan Silvia. By

Springfield Mayor adds members to civilian review board During a press conference at City Hall, Mayor Domenic J. Sarno and his chief of staff, Denise R. Jordan, presented the city's newly realigned, nine-member Community

'Person of interest' ID'd in S.F. cop's 1988 slaying Jordan said under those circumstances, "It wasn't our prerogative to say we were going to investigate anyway." Walnut Creek's decision to conduct the investigation on its own

Pair arraigned in Dartmouth prom incident | Massachusetts Cop Jordan Todman, 18, of 59 Maine Ave., a former Dartmouth High School athlete headed to the University of Connecticut on a football scholarship, and his girlfriend, Leah

Eligible List for State Police Selection - Eligible list for State Police selection provides details about candidates eligible for recruitment in the state police department

Burned body removed from scene in Hyannis, identified as Re: Burned body removed from scene in Hyannis, identified as a Barnstable High studen Cape Cod boy, 13, accused of killing rival brother STEPHAN SAVOIA/THE

Arrests Made In Connection With 2 Strings Of Burglaries Jordan P. Sandman, 14 Dalton St., is currently being held at Middleton Jail on a probation violation. But Capt. Michael Raiche of the Dover, N.H., police said yesterday he

Red Sox record this year, any guesses? - Jordan's Furniture promised free sofas, chairs and beds to customers who bought between March 7 and April 16, if the Red Sox won the title. Video: Sox Win Could Mean Free

No guns for city court workers | Massachusetts Cop Forum They said it would be easier to hire officers if the pay for court duty was raised from $65 a day. ''Most people can go to McDonald's and get paid more now,'' Jordan said. Last

Asylum's Renaming Insults Advocates | Massachusetts Cop Forum After struggling to find a suitable, sustainable use, the state sold it at auction last summer for $1.5 million to Jordan's father, Joe, an asbestos demolition contractor from

City swears in seven new officers | Massachusetts Cop Forum Mayor Robert Correia performs a swearing-in ceremony for seven new police officers at Government Center on Monday. At far right is Iraq war veteran Jordan Silvia. By

Springfield Mayor adds members to civilian review board During a press conference at City Hall, Mayor Domenic J. Sarno and his chief of staff, Denise R. Jordan, presented the city's newly realigned, nine-member Community

'Person of interest' ID'd in S.F. cop's 1988 slaying Jordan said under those circumstances, "It wasn't our prerogative to say we were going to investigate anyway." Walnut Creek's decision to conduct the investigation on its own

Pair arraigned in Dartmouth prom incident | Massachusetts Cop Jordan Todman, 18, of 59 Maine Ave., a former Dartmouth High School athlete headed to the University of Connecticut on a football scholarship, and his girlfriend, Leah

Eligible List for State Police Selection - Eligible list for State Police selection provides details about candidates eligible for recruitment in the state police department

Burned body removed from scene in Hyannis, identified as Re: Burned body removed from scene in Hyannis, identified as a Barnstable High studen Cape Cod boy, 13, accused of killing rival brother STEPHAN SAVOIA/THE

Arrests Made In Connection With 2 Strings Of Burglaries Jordan P. Sandman, 14 Dalton St., is currently being held at Middleton Jail on a probation violation. But Capt. Michael Raiche of the Dover, N.H., police said yesterday he

Red Sox record this year, any guesses? - Jordan's Furniture promised free sofas, chairs and beds to customers who bought between March 7 and April 16, if the Red Sox won the title. Video: Sox Win Could Mean Free

No guns for city court workers | Massachusetts Cop Forum They said it would be easier to hire officers if the pay for court duty was raised from $65 a day. ''Most people can go to McDonald's and get paid more now,'' Jordan said. Last

Asylum's Renaming Insults Advocates | Massachusetts Cop Forum After struggling to find a suitable, sustainable use, the state sold it at auction last summer for $1.5 million to Jordan's father, Joe, an asbestos demolition contractor from

City swears in seven new officers | Massachusetts Cop Forum Mayor Robert Correia performs a swearing-in ceremony for seven new police officers at Government Center on Monday. At far right is Iraq war veteran Jordan Silvia. By

Springfield Mayor adds members to civilian review board During a press conference at City Hall, Mayor Domenic J. Sarno and his chief of staff, Denise R. Jordan, presented the city's newly realigned, nine-member Community

'Person of interest' ID'd in S.F. cop's 1988 slaying Jordan said under those circumstances, "It wasn't our prerogative to say we were going to investigate anyway." Walnut Creek's decision to conduct the investigation on its own

Pair arraigned in Dartmouth prom incident | Massachusetts Cop Jordan Todman, 18, of 59 Maine Ave., a former Dartmouth High School athlete headed to the University of Connecticut on a football scholarship, and his girlfriend, Leah

Eligible List for State Police Selection - Eligible list for State Police selection provides details

about candidates eligible for recruitment in the state police department
Burned body removed from scene in Hyannis, identified as Re: Burned body removed from scene in Hyannis, identified as a Barnstable High studen Cape Cod boy, 13, accused of killing rival brother STEPHAN SAVOIA/THE
Arrests Made In Connection With 2 Strings Of Burglaries Jordan P. Sandman, 14 Dalton St., is currently being held at Middleton Jail on a probation violation. But Capt. Michael Raiche of the Dover, N.H., police said yesterday he
Red Sox record this year, any guesses? - Jordan's Furniture promised free sofas, chairs and beds to customers who bought between March 7 and April 16, if the Red Sox won the title. Video: Sox Win Could Mean Free
No guns for city court workers | Massachusetts Cop Forum They said it would be easier to hire officers if the pay for court duty was raised from $65 a day. ''Most people can go to McDonald's and get paid more now,'' Jordan said. Last
Asylum's Renaming Insults Advocates | Massachusetts Cop Forum After struggling to find a suitable, sustainable use, the state sold it at auction last summer for $1.5 million to Jordan's father, Joe, an asbestos demolition contractor from
City swears in seven new officers | Massachusetts Cop Forum Mayor Robert Correia performs a swearing-in ceremony for seven new police officers at Government Center on Monday. At far right is Iraq war veteran Jordan Silvia. By
Springfield Mayor adds members to civilian review board During a press conference at City Hall, Mayor Domenic J. Sarno and his chief of staff, Denise R. Jordan, presented the city's newly realigned, nine-member Community
'Person of interest' ID'd in S.F. cop's 1988 slaying Jordan said under those circumstances, "It wasn't our prerogative to say we were going to investigate anyway." Walnut Creek's decision to conduct the investigation on its own
Pair arraigned in Dartmouth prom incident | Massachusetts Cop Jordan Todman, 18, of 59 Maine Ave., a former Dartmouth High School athlete headed to the University of Connecticut on a football scholarship, and his girlfriend, Leah