The Life of Jorge Martínez

W. Wm. McGovern

Wilkes Honors College, Florida Atlantic University

BLAST 2021

Jorge Martínez was born in Curaçao on November 1st, 1945. Jorge passed away peacefully on August 19, 2020 after a long bout with Parkinson's.

Jorge Martínez was born in Curaçao on November 1st, 1945. Jorge passed away peacefully on August 19, 2020 after a long bout with Parkinson's.

Jorge graduate from the Tulane University in 1969 as a student of Paul F. Conrad. [18]

Jorge Martínez was born in Curaçao on November 1st, 1945. Jorge passed away peacefully on August 19, 2020 after a long bout with Parkinson's.

Jorge graduate from the Tulane University in 1969 as a student of Paul F. Conrad. [18]

After graduation he was hired by the University of Florida (Gainesville) where he would spend his mathematical career. He retired as a Full Professor in 2010.

Jorge Martínez was born in Curaçao on November 1st, 1945. Jorge passed away peacefully on August 19, 2020 after a long bout with Parkinson's.

Jorge graduate from the Tulane University in 1969 as a student of Paul F. Conrad. [18]

After graduation he was hired by the University of Florida (Gainesville) where he would spend his mathematical career. He retired as a Full Professor in 2010.

While over his career he wrote over 110 published papers and supervised 7 Ph.D. students. His area of expertise is classified as Ordered Algebraic Structures.

Here is the list of his former PhD students.

David Kenoyer (1982)
Robert T. Finn (1997)
Chawne M. Kimber (1999)
Erik R. Zenk (2004)
Scott D. Woodward (1992)
Warren Wm. McGovern (1998)
Ricardo E. Carrera (2004)

Here is the list of his former PhD students.

David Kenoyer (1982)
Robert T. Finn (1997)
Chawne M. Kimber (1999)
Erik R. Zenk (2004)
Scott D. Woodward (1992)
Warren Wm. McGovern (1998)
Ricardo E. Carrera (2004)

Mathematical Lineage.

Paul F. Conrad (1951), Reinhold Baer (1927), Hellmuth Kneser (1921), David Hilbert (1885)

Here is the list of his former PhD students.

David Kenoyer (1982)
Robert T. Finn (1997)
Chawne M. Kimber (1999)
Erik R. Zenk (2004)
Scott D. Woodward (1992)
Warren Wm. McGovern (1998)
Ricardo E. Carrera (2004)

Mathematical Lineage.
Paul F. Conrad (1951), Reinhold Baer (1927), Hellmuth Kneser (1921), David Hilbert (1885)

Mathematical siblings:
W. C. Holland, Michael Darnel, John Harvey III, Marlow Anderson, David Nelson, Bixler, Bleir, Byrd, Chambless, Chen, Ellis, Kenny, Lin, Lloyd, Teller.

Here is a list of journals where his work appeared.

Trans. A.M.S.
Proc. A.M.S.
Journal of Algebra
Topology and its Applications
Pacific Journal of Mathematics
Indagationes Mathematicae
Algebra Universalis*
Canadian Journal of Mathematics
Journal of Pure and Applied Algebra
Czechoslovak Mathematical Journal
Acta Applicandae Mathematicae
Rendiconti del Seminario Matematico della Universit di Padova
Commentationes Mathematicae Universitatis Carolinae
Tatra Mountains Mathematical Publications
Acta Mathematica Hungarica
Archiv der Mathematik
Applied Categorical Structures
Order
Advances in Mathematics
Mathematica Slovaca
Forum Mathematicum

(*-served as editor)

Jorge Martínez: the early work (1969-1982)

Jorge Martínez: the early work (1969-1982)

A lattice-ordered group is a group $(G, +, 0)$ equipped with a lattice structure $(G, \vee, \wedge)$ such that for all $a, b, c \in G$ with $a \leq b$

$$c + a \leq c + b \qquad \text{and } a + c \leq b + c.$$

We use $+$ even though groups are not assumed to be abelian. Jorge used to classify this as an example of a *style of Conrad*.

Jorge Martínez: the early work (1969-1982)

A lattice-ordered group is a group $(G, +, 0)$ equipped with a lattice structure $(G, \vee, \wedge)$ such that for all $a, b, c \in G$ with $a \leq b$

$$c + a \leq c + b \qquad \text{and } a + c \leq b + c.$$

We use $+$ even though groups are not assumed to be abelian. Jorge used to classify this as an example of a *style of Conrad*.

The most well-known examples of lattice-ordered groups: $\mathbb{R}$, $\mathrm{Aut}(\Omega)$, $\mathbb{Q}$, $\mathbb{Z}$, $C(X)$, $C(X, \mathbb{Z})$, $\mathbb{R} \times \mathbb{R}$, $\overrightarrow{\mathbb{R} \times \mathbb{R}}$, the group of divisibility of a (commutative) Bézout domain.

One of the most important objects in ℓ-groups is the collection of its convex ℓ-subgroups: a non-empty subset $H \subseteq G$ which is a sublattice, subgroup and has the property that if $h_1 \leq g \leq h_2$ and $h_1, h_2 \in H$, then so is g.

One of the most important objects in ℓ-groups is the collection of its convex ℓ-subgroups: a non-empty subset $H \subseteq G$ which is a sublattice, subgroup and has the property that if $h_1 \leq g \leq h_2$ and $h_1, h_2 \in H$, then so is g.

The normal convex ℓ-subgroups are precisely the kernels of ℓ-group homomorphisms.

One of the most important objects in ℓ-groups is the collection of its convex ℓ-subgroups: a non-empty subset $H \subseteq G$ which is a sublattice, subgroup and has the property that if $h_1 \leq g \leq h_2$ and $h_1, h_2 \in H$, then so is g.

The normal convex ℓ-subgroups are precisely the kernels of ℓ-group homomorphisms.

The collection of convex ℓ-subgroups is denoted by $\mathcal{C}(G)$. Early on, this collection was known to be a complete Brouwerian lattice. Nowadays, it is known as an example of an algebraic frame.

A *frame* is a complete lattice L in which the following distributive law holds:

$$a \wedge \bigvee S = \bigvee \{a \wedge s : s \in S\},$$

for each $a \in L$ and $S \subseteq L$.

Topics

Variety of ℓ-groups

Radicals on ℓ-groups

Torsion and quasi-torsion theories and classes of ℓ-groups

Torsion products of ℓ-groups

Free products of ℓ-groups

Archimedean lattices

Jorge Martínez: the middle stage (1985-2002)

Jorge Martínez: the middle stage (1985-2002)

It was at this point in his career that Jorge took on the arduous role of Conference Organizer. This was a natural move. Others had been doing this as well.

He was instrumental in setting up the Caribbean Mathematics Foundation. Conferences were held in Curaçao; the first in 1988. Working with Charles Holland and Kluwer Academic Publishers they produced several proceedings of these conferences on ℓ-groups as well as other areas of mathematics.

Charles also was part of many other proceedings.

Jorge Martínez: the middle stage (1985-2002)

It was at this point in his career that Jorge took on the arduous role of Conference Organizer. This was a natural move. He was instrumental in setting up the Caribbean Mathematics Foundation. Conferences were held in Curaçao; the first in 1988. Working with Charles Holland and Kluwer Academic Publishers they produced several proceedings of these conferences on ℓ-groups as well as other areas of mathematics.

Charles also was part of many other proceedings.

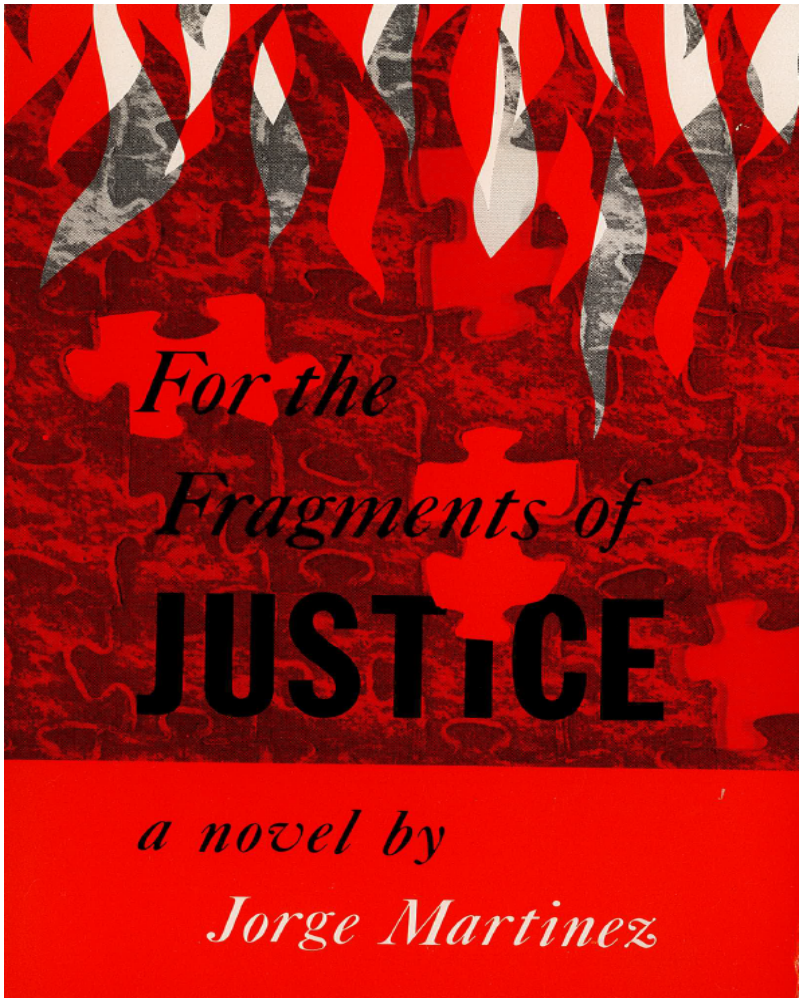
Jorge Martínez: the middle stage (1985-2002)

It was at this point in his career that Jorge took on the arduous role of Conference Organizer. This was a natural move. He was instrumental in setting up the Caribbean Mathematics Foundation. Conferences were held in Curaçao; the first in 1988. Working with Charles Holland and Kluwer Academic Publishers they produced several proceedings of these conferences on ℓ-groups as well as other areas of mathematics.

Charles also was part of many other proceedings.

In the mid 1990s, Jorge teamed up with Constantine Tsinakis to start the Consortium for Order in Algebra and Logic, a joint venture between Vanderbilt University and the University of Florida.

Now is a good time to mention that Jorge also wrote a novel by the title of *For the Fragments of Justice* (1989).



In this middle stage, Jorge's work started to turn from ℓ-groups to topics in ring theory with a focus on f-rings. He got into the "Dutch School" of mathematics. He met Tony Hager.

In this middle stage, Jorge's work started to turn from ℓ-groups to topics in ring theory with a focus on f-rings. He got into the "Dutch School" of mathematics. He met Tony Hager.

Topics

Rings of continuous functions: $C(X)$ and $C(X, \mathbb{Z})$

Semiprime f-rings with bounded inversion

Categorical questions on f-rings (e.g. pushouts, monoreflections)

Bézout and Prüfer f-rings

Ring of quotients and essential extensions

Gabriel filters of ideals

Tychonoff spaces

Absolutes and Quasi F-covers of compact Hausdorff spaces

Jorge Martínez: the third stage (2002-2020)

Over the last two decades Jorge returned to working on one of his original interests: studying complete Brouwerian lattices....

Jorge Martínez: the third stage (2002-2020)

Over the last two decades Jorge returned to working on one of his original interests: studying complete Brouwerian lattices....
AKA **frames**: specifically algebraic frames with the finite intersection property.

Jorge Martínez: the third stage (2002-2020)

Over the last two decades Jorge returned to working on one of his original interests: studying complete Brouwerian lattices....
AKA **frames**: specifically algebraic frames with the finite intersection property.

It was at this point in his career that Jorge had a command of several disparate areas of mathematics: ℓ-groups, semiprime f-rings, rings of quotients of semiprime commutative rings, Tychonoff spaces and category theory. Specifically, his understanding of these areas was focused through objects like $\mathcal{C}(G)$, $\mathrm{Rad}(R)$, dL, and zL.

Towards the end of his career Jorge was focusing his mathematical energy on generalizing the epicompletion (in W) to appropriate categories of algebraic frames.

Towards the end of his career Jorge was focusing his mathematical energy on generalizing the epicompletion (in W) to appropriate categories of algebraic frames.

Jorge talked about this project whenever we would get together. He wrote 5 papers on the subject; the last of which left him, finally, a little bit settled.

In this third stage, Jorge's work started focused heavily on the theory of M-frames: algebraic frames with the FIP.

In this third stage, Jorge's work started focused heavily on the theory of M-frames: algebraic frames with the FIP.

Topics

Archimedean frames

Yosida frames and finitely subfit frames

Dimension theory in frames

Conrad frames

Epicompleteness in (certain) categories of frames

Nuclei on frames, and the assembly of a frame

Top 7 Articles 17

Pictures

Stories

Martinez, Jorge; Zenk, Eric R. When an algebraic frame is regular. *Algebra Universalis* 50 (2003), no. 2, 231–257.

Martinez, J. Archimedean lattices. *Algebra Universalis* 3 (1973), 247–260.

Martinez, Jorge Torsion theory for lattice-ordered groups. *Czechoslovak Math. J.* 25(100) (1975), 284–299.

Hager, Anthony W.; Martinez, Jorge Fraction-dense algebras and spaces. *Canad. J. Math.* 45 (1993), no. 5, 977–996.

Henriksen, Melvin; Larson, Suzanne; Martinez, Jorge; Woods, R. G. Lattice-ordered algebras that are subdirect products of valuation domains. *Trans. Amer. Math. Soc.* 345 (1994), no. 1, 195–221.

Conrad, Paul; Martinez, Jorge Complemented lattice-ordered groups. *Indag. Math. (N.S.)* 1 (1990), no. 3, 281–297.

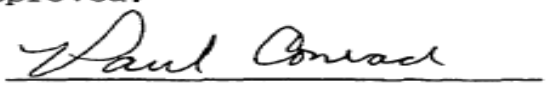
Holland, W. C.; Martinez, J.; McGovern, W. Wm.; Tesemma, M. Bazzoni's conjecture. *J. Algebra* 320 (2008), no. 4, 1764–1768.

EXTENSIONS OF PARTIAL ORDERS ON GROUPS

A dissertation
Submitted on the eleventh day of July, 1969
to the Department of Mathematics
of the Graduate School
of Tulane University
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy
by

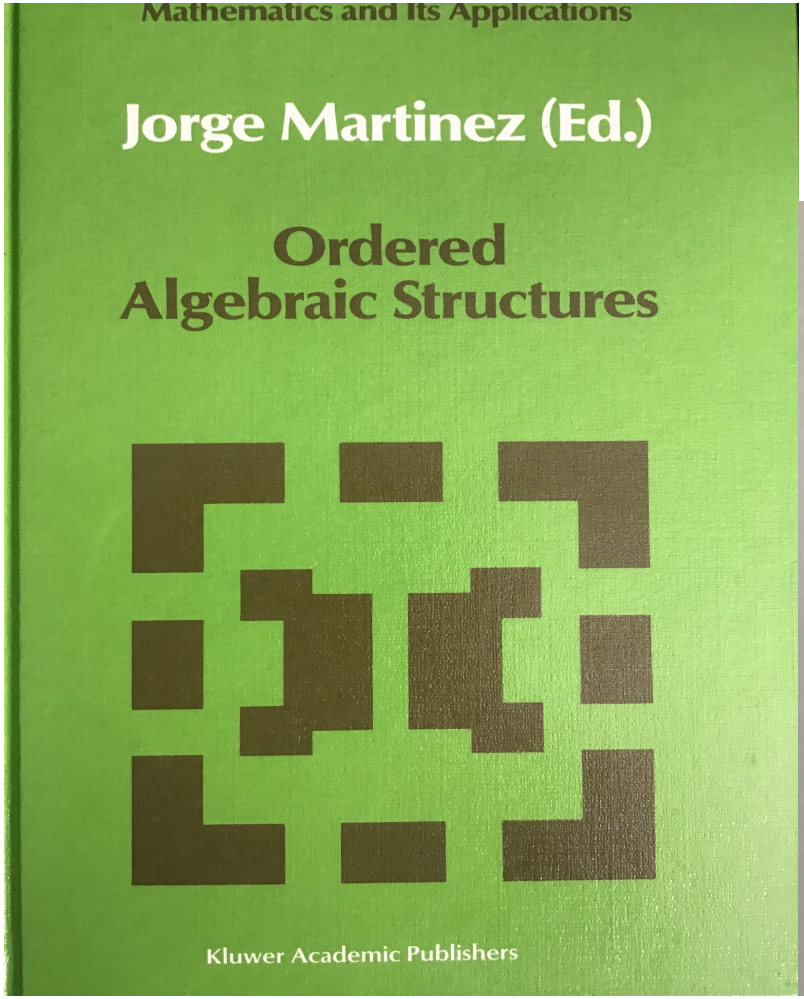
Jorge Martinez

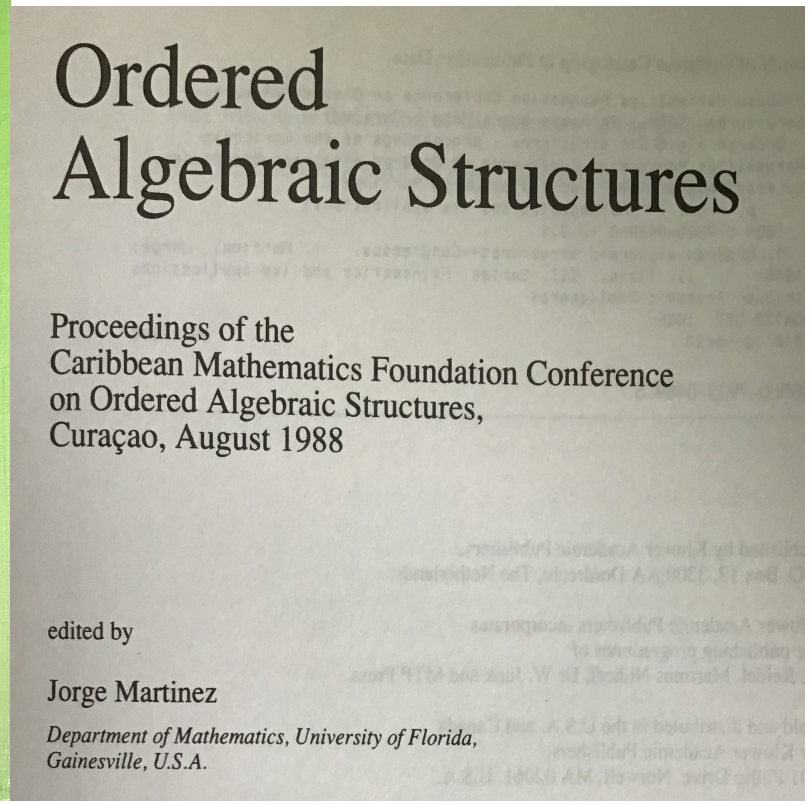
Approved:



Paul F. Conrad, Chairman

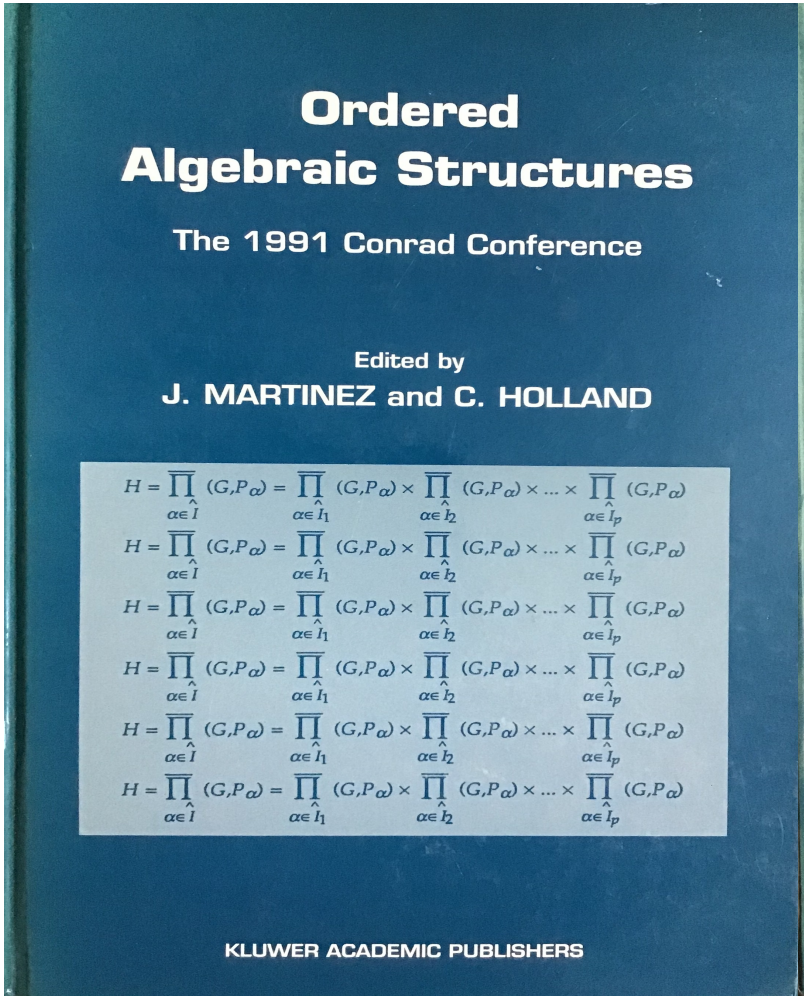
Return 2

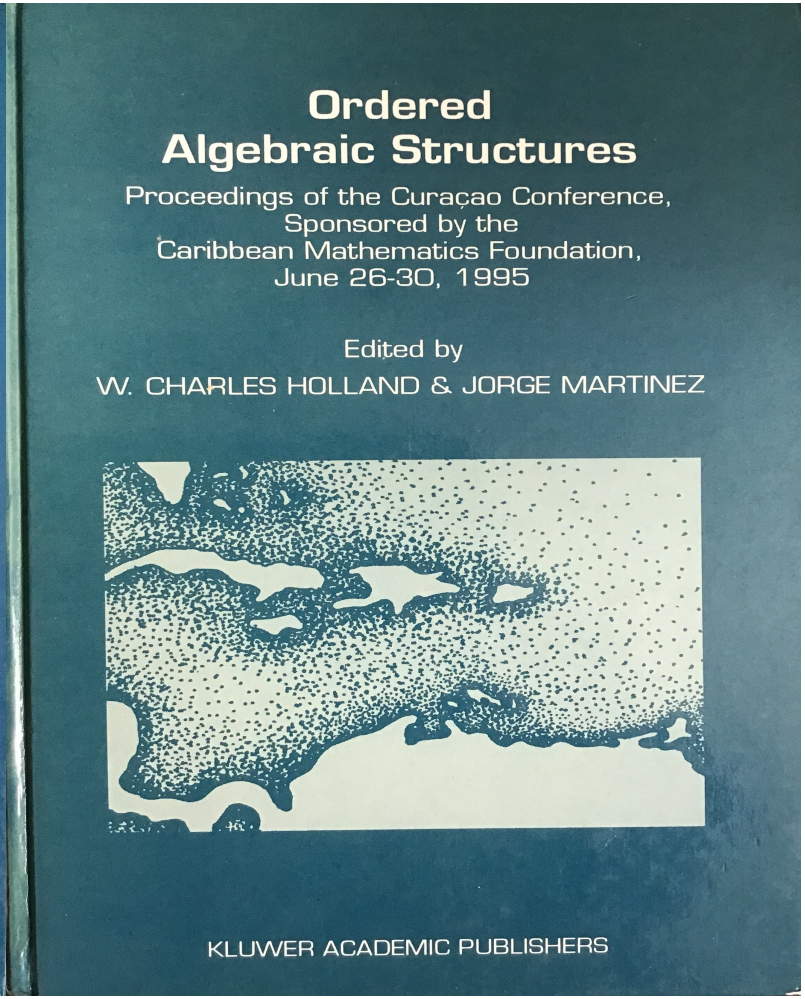

Mathematics and Its Applications
Jorge Martinez (Ed.)
Ordered
Algebraic Structures
Kluwer Academic Publishers


Ordered
Algebraic Structures
Proceedings of the
Caribbean Mathematics Foundation Conference
on Ordered Algebraic Structures,
Curaçao, August 1988
edited by
Jorge Martinez
Department of Mathematics, University of Florida,
Gainesville, U.S.A.

20

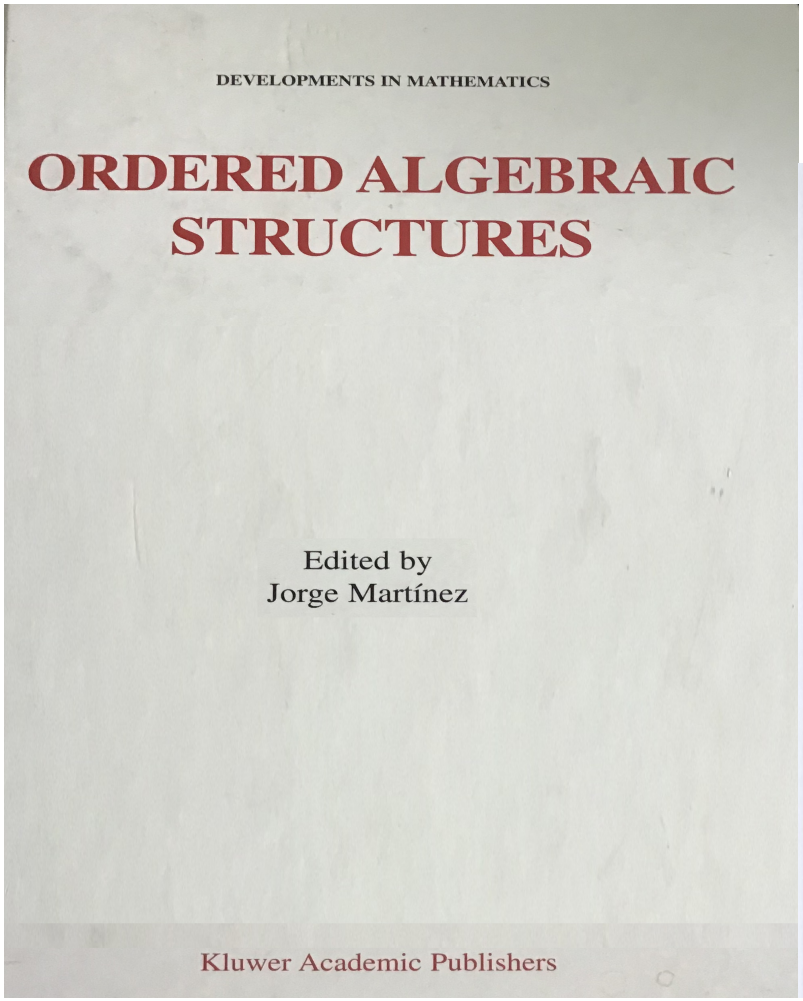
Return 10

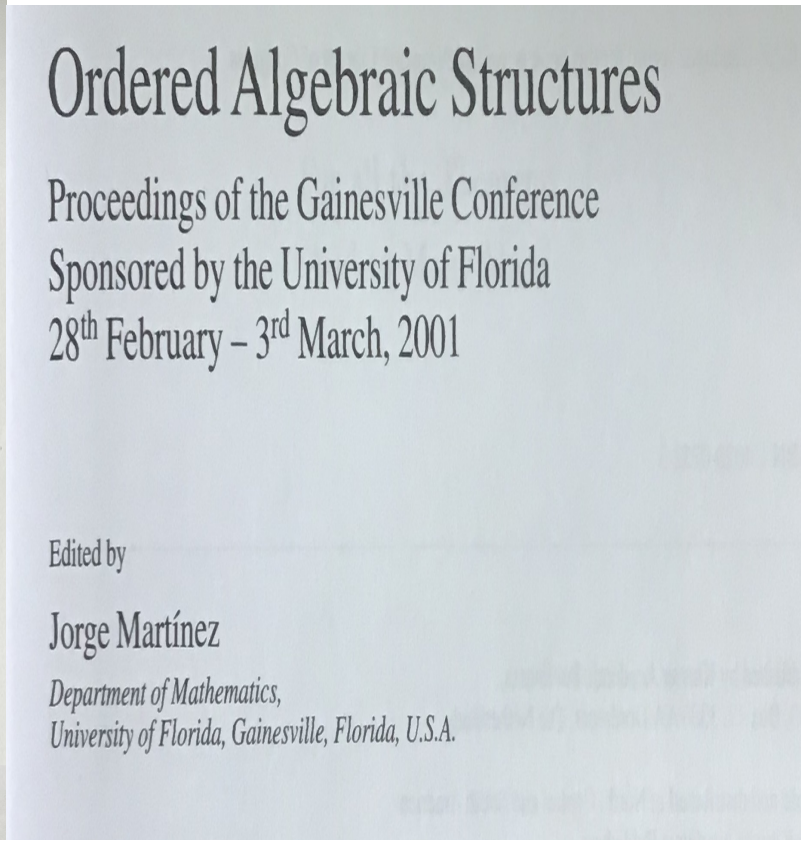

Ordered
Algebraic Structures
The 1991 Conrad Conference
Edited by
J. MARTINEZ and C. HOLLAND
$H = \prod_{\alpha \in \hat{I}} (G,P_\alpha) = \prod_{\alpha \in \hat{I}_1} (G,P_\alpha) \times \prod_{\alpha \in \hat{I}_2} (G,P_\alpha) \times \ldots \times \prod_{\alpha \in \hat{I}_p} (G,P_\alpha)$
KLUWER ACADEMIC PUBLISHERS

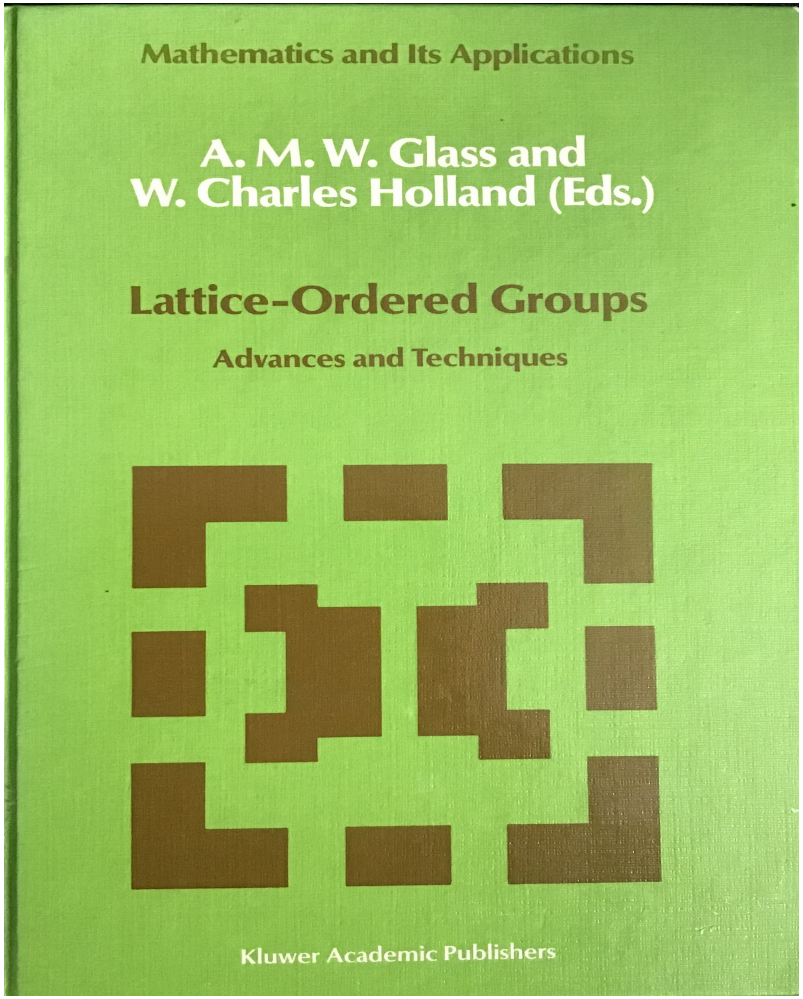

Ordered
Algebraic Structures
Proceedings of the Curaçao Conference,
Sponsored by the
Caribbean Mathematics Foundation,
June 26-30, 1995
Edited by
W. CHARLES HOLLAND & JORGE MARTINEZ
KLUWER ACADEMIC PUBLISHERS

21

Return 10


DEVELOPMENTS IN MATHEMATICS
ORDERED ALGEBRAIC STRUCTURES
Edited by
Jorge Martínez
Kluwer Academic Publishers


Ordered Algebraic Structures
Proceedings of the Gainesville Conference
Sponsored by the University of Florida
28th February – 3rd March, 2001
Edited by
Jorge Martínez
Department of Mathematics,
University of Florida, Gainesville, Florida, U.S.A.


Mathematics and Its Applications
A. M. W. Glass and
W. Charles Holland (Eds.)
Lattice-Ordered Groups
Advances and Techniques
Kluwer Academic Publishers

Return 10