

----- Forwarded message -----

Date: Tue, 14 Mar 2017 19:05:58 -0400 (EDT)
 From: Giovanni Acampora <fuzziieee2017@ieee-cis.org>
 To: baldi@logic.at, agata@logic.at, francesca.gulisano@sns.it
 Subject: FUZZ-IEEE 2017 Paper #374 Decision Notification

Dear Author(s),

Congratulations! On behalf of the FUZZ-IEEE 2017 Technical Program Committee and Technical Chairs, we are pleased to inform you that your paper:

Paper ID: 374
 Author(s): Paolo Baldi, Agata Ciabattoni and Francesca Gulisano
 Title: Standard completeness for extensions of IMTL

has been accepted for presentation at the FUZZ-IEEE 2017 and for publication in the conference proceedings published by IEEE. This email provides you with all the information you require to complete your paper and submit it for inclusion in the proceedings. A notification of the presentation format (oral or poster) will be sent soon.

Please read this email carefully. Here are the steps you must follow:

1. Please see the REVIEWERS' COMMENTS for your paper at the end of this email, which are intended to help you to improve your paper for final publication. The listed comments should be addressed, as acceptance is conditional on appropriate response to the requirements and comments.
2. Please prepare your manuscript for final camera ready submission following the same PDF format guidelines as for the initial submission. Papers are limited to SIX (6) pages in length, must be IEEE Xplore compliant, and must follow the formatting instructions provided at:

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Make your reservation early to enjoy the special Congress room rates (only limited number of rooms are available)!

6. Find out if you need a visa to enter Italy, and submit your visa application early if a visa is needed (do not wait until the last minute).

For invitation letter from FUZZ-IEEE 2017 for your visa application, please contact the General Chair, Giovanni Acampora (giovanni.acampora@unina.it). Please contact him for the Visa letter after you have registered with the conference. .

7. All papers have been reviewed in the same manner with the same standards and no distinction will be made between oral and poster papers in the proceedings.

Sincerely,
 Hani Hagrass and Francesco Herrera
 FUZZ-IEEE 2017 Programme Co-Chairs

REVIEWERS' COMMENTS

 REVIEW NO. 1

Comments to the authors:

This is a nice short paper that extends the proof-theoretic method of proving standard completeness for fuzzy logics via density elimination to a syntactically defined class extending IMTL. Although the description of the class and the resulting proofs are not so surprising given previous work by two of the authors, there are still some tricky details here to resolve which the paper handles very neatly. It is certainly very suitable for the special session "Recent trends in many-valued logic and fuzziness".

I just have a few comments for the authors:

(1) You could mention that your general method covers nilpotent minimum logic, giving, I believe, a first syntactic proof of standard completeness for this logic.

(2) You include rules for implication in Figure 1 that are not needed and would not usually be included in this style of presentation (e.g., for linear logic).

(3) There are a few errors with articles scattered across the paper; e.g., in Definition 4 "A SA rule" should be "An SA rule"; after Definition 5, "a Inv-SA rule" should be "an Inv-SA rule".

(4) I don't understand why the axioms in Example 1 are called "homonymous".

(5) There is no need to cite it here, but you may be interested in a new paper on the density rule and its applications:

G. Metcalfe and C. Tsinakis. Density revisited. *Soft Computing* 21(1) (2016), 175-189.

(6) What is missing here -- I'm sure just due to a lack of space -- is some outlook and perspective on the results obtained. I wonder for example if your methods provide a characterization of which N2 axioms can be added to IMTL to give density elimination. Could it be that in this case, if density elimination fails, then contraction must be derivable?

 REVIEW NO. 2

Comments to the authors:

The authors present a general proof of standard completeness for a family of extensions of the IMTL logics. They do it following a proof-theoretical approach based on Hypersequent calculus. They first check completeness of these axiomatic extensions with respect to dense countably linearly ordered algebras of algebraic companion. In order to do this, density elimination is proven for IMTL extensions with some particularly well-behaved axioms. Afterwards, they prove that the Dedekind-MacNeille completion of the chains does preserve the first order quasi-equational relations (structural clauses) arising from the hypersequent rules that are constructed from the axioms added to IMTL via an algorithmic procedure give [9].

The approach generalises some results from [2],[3] by proving standard completeness of a wider class of logics, while the techniques seem similar to the ones existing in the literature (cf. [6,7], [18],[19]). It is well written and organized, and its contents are original and interesting enough to accept it for presentation.

I have two short commentaries for the authors:

1) I find that a drawback of this work is that it is quite difficult to understand which are indeed the logics that can be added to the IMTL axiomatic system for which the presented proof is given. The definition of Inv-IMTL logics is not very natural: It is given as extensions of IMTL by axioms whose associated Hypersequent calculus satisfies three nested conditions. Researchers from neighbouring fields might find it hard to rely on the standard completeness result given the difficulties that might arise when trying to classify an extension of IMTL as an Inv-SA logic.

I strongly suggest the authors to try to clarify this matter: the FUZZ-IEEE community is not restricted mathematical logic/proof theory, and moreover, I consider addressing the characteristics of these axiom simpler way would enhance the quality of the paper.

2) I suggest shortening/simplifying the technical proofs, if possible by relying on results existing in literature (particularly Th. 2), and on the other hand, giving a more detailed and clearer introduction to Hypersequent calculus, the motivations behind its use -if any apart from the fact that the conditions of additional axioms of an Inv-SA logic are given via hypersequents-, etc...

REVIEW NO. 3

Comments to the authors:

The proposed topic is very interesting. The paper is technically very well written. However, the paper is a little hard to read and to understand. Clearly, the authors have a lot of expertise on this important subject but the restriction of a maximum of the six pages limits its clarity. This fact is mentioned because it should be taken into account when organizing the presentation of these very relevant ideas. It is worth mentioning that the paper is not only important by proving standard completeness for a well defined class of logics, but also it shows a very fruitful line of research.

Small mistake: In the conclusion of the analytic hypersequent rule on page 5, a sub index 'I' instead of a 'j' is shown.