By submitting this extended abstract to IMC44 I confirm that (i) I and any other coauthor(s) are responsible for its content and its originality; (ii) any possible coauthors agreed to its submission to IMC44.

SYNCHRONIZATION FOR UNCERTAIN CHAOTIC NEURAL NETWORKS WITH MIXED TIME DELAYS

GHASEM BABAEI TEHRANI[1], AMIR ALI JAMSHIDIAN[1]*AND AKBAR ZANJANI[2]

[1] *Department of Pure Mathematics, Ferdowsi University of Mashhad, P. O. Box 1159, Mashhad 91775, Iran;*
Centre of Excellence in Analysis on Algebraic Structures (CEAAS), Ferdowsi University of Mashhad, Mashhad, Iran.
javadi@um.ac.ir; jamshid@member.ams.org

[2] *Department of Mathematics, Faculty of Mathematics and Statistics, University of Birjand, Birjand, Iran.*
zanjani@bu.ac.ir

Abstract. Here please insert your abstract. The abstract should be 200 words or less with no reference number therein and should contain the main result of the talk. The speaker is responsible for the proper formatting of his/her talk by using the style file of the booklet of abstracts.

1. Introduction

The number of pages of the extended abstract should have 3-4 pages. Papers prepared in less than 3 pages, more than 4 pages or out of the style of the conference will be returned.

2010 *Mathematics Subject Classification.* Primary 47A55; Secondary 39B52, 34K20, 39B82.

Key words and phrases. Hilbert space, local cohomology, semi-Fredholm operator (at least 3 and at most 5 items).

* Speaker.

You can use Photoshop for converting eps to jpg. A sample for inserting a jpg file is the following (use winedit and directly produce pdf not dvi):

Here you should state the introduction, preliminaries and your notation. Authors are required to state clearly the contribution of the extended abstract and its significance in the introduction. There should be some survey of relevant literature.

1.1. **Instructions for speakers.** While you are preparing your extended abstract, please take care of the following:

Before submitting your extended abstract to the conference, please rename its tex file by using your name and the names of your coauthors, e.g. Jamshidian-BabaeiTehrani.tex

(1) **MSC2010: Primary only one item; and Secondary at most 3 items.**

(2) **Key words: At least 3 items and at most 5 items.**

(3) **Authors: Full names, mailing addresses and emails of all authors.**

(4) **Margins: A long formula should be broken into two or more lines. Empty spaces in the text should be removed.**

(5) **Tags (Formula Numbers): Use** `\label{A}` **and** `\eqref{A}`**. Remove unused tags.**

(6) **Acknowledgement: At the end of extended abstract but preceding to References, if there is any**

(7) **References: Use** `\cite{H}` **to refer to the specific book or paper [2], whose bibitem code is** `\bibitem{H}` **. Remove unused references. References should be listed in the alphabetical order according to the surnames of the first author at the end of the extended abstract and should be cited in the text as, e.g., [2] or [3, Theorem 4.2], etc.**

(8) Abbreviations: Abbreviations of titles of periodicals or books should be given by using Math. Reviews, see Abbreviations of names of serials or MRLookup at http://www.ams.org/mrlookup.

2. Main results

The following is an example of a lemma.

Lemma 2.1. *Assume that K is an arbitrary field, $GL(n, K)$ is a linear group of dimension n over K, n is a positive integer.*

(a) *If G is a locally nilpotent subgroup of $GL(n, K)$, then G has no proper conjugately dense subgroups;*
(b) *If G is a locally supersoluble subgroup of $GL(n, K)$, then G has no proper conjugately dense subgroups.*

Here is an example of a table.

Table 1. Your table's caption

col1	col2	col3
4	5	6
7	8	9

This is an example of a matrix

$$\begin{bmatrix} 1 & -2 \\ 3 & 5 \end{bmatrix}$$

The following is an example of an example.

Example 2.2. Let $D_\infty =< a, b | a^2 = b^2 = 1 > \cong \mathbb{Z}_2 * \mathbb{Z}_2$ be the infinite dihedral group. Then

$$M^{(2)}(D_\infty) \ncong M^{(2)}(\mathbb{Z}_2) \oplus M^{(2)}(\mathbb{Z}_2).$$

The following is an example of a theorem and a proof. Please note how to refer to a formula.

Theorem 2.3. *If $\mathbf{B}$ is an open ball of a real inner product space $\mathcal{X}$ of dimension greater than 1, then there exist additive mappings $T : \mathcal{X} \to \mathcal{Y}$ and $b : \mathbb{R}_+ \to \mathcal{Y}$ such that $f(x) = T(x) + b\left(\|x\|^2\right)$ for all $x \in \mathbf{B} \setminus \{0\}$.*

Proof. First note that if f is a generalized Jensen mapping with parameters $t = s \geq r$, then

$$\begin{aligned} f(\lambda(x+y)) &= \lambda f(x) + \lambda f(y) \\ &\leq \lambda(f(x)+f(y)) \\ &= f(x)+f(y) \end{aligned} \tag{2.1}$$

for some $\lambda \geq 1$ and all $x, y \in \mathbf{B} \setminus \{0\}$ such that $x \perp y$.

Step (I)- the case that f is odd: Let $x \in \mathbf{B} \setminus \{0\}$. There exists $y_0 \in \mathbf{B} \setminus \{0\}$ such that $x \perp y_0$, $x + y_0 \perp x - y_0$. We have

$$\begin{aligned} f(x) &= f(x) - \lambda f\left(\frac{x+y_0}{2\lambda}\right) - \lambda f\left(\frac{x-y_0}{2\lambda}\right) \\ &\quad + \lambda f\left(\frac{x+y_0}{2\lambda}\right) - \lambda^2 f\left(\frac{x}{2\lambda^2}\right) - \lambda^2 f\left(\frac{y_0}{2\lambda^2}\right) \\ &= 2\lambda^2 f\left(\frac{x}{2\lambda^2}\right). \end{aligned}$$

Step (II)- the case that f is even: Using the same notation and the same reasoning as in the proof of Theorem 2.3, one can show that $f(x) = f(y_0)$ and the mapping $Q : \mathcal{X} \to \mathcal{Y}$ defined by $Q(x) := (4\lambda^2)^n f((2\lambda^2)^{-n}x)$ is even orthogonally additive.

Now the result can be deduced from Steps (I) and (II) and (2.1). □

Acknowledgement

Acknowledgements could be placed at the end of the text but precede the references.

Please cite your relevant papers but at most total 5 papers/books.

References

1. U. Haagerup, *Solution of the similarity problem for cylic representations of C^*-algebras*, Ann. of Math. 118 (1983), no. 2, 215–240.
2. A.A. Jamshidian, *Čebyshev inequality*, Linear Multilinear Algebra, arXiv:1154.1464v2 (to appear).
3. Z. Rezaei, A.A. Jamshidian and Gh. Babaei Tehrani, *Cyclic nilpotent groups*, Proc. Amer. Math. Soc. 145 (2008), no. 11, 3318–3321.
4. V.S. Ryabenkii and S.V. Tsynkov, *A theoretical introduction to numerical analysis*, Chapman & Hall/CRC, Boca Raton, FL, 2007.
5. J. Mił́ovć, *Lie symmetries of systems of second-order linear ordinary differential equations*, Nonlinear analysis, 239–267, Springer Optim. Appl., 65, Springer, New York, 2011.