LEMBAR

HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW*

KARYA ILMIAH: JURNAL ILMIAH

Judul Karya Ilmiah (Paper)	: **The Prediction of Stiffness of Bamboo-Reinforced Concrete Beams Using Experiment Data and Artificial Neural Networks (ANNs)**	
Jumlah Penulis	: 14 Orang (1. Muhtar, 2. Amri G, 3. Suhardi, 4. Nursaid, 5. Irawati, 6. Ilanka Cahya Dewi, 7. dll)	
Status Pengusul	: Penulis pertama / ~~penulis ke....~~ / penulis korespondensi**	
Identitians Jurnal/Prosiding	: a. Nama Jurnal/ Prosiding	: Crystals
	b. ISSN/ISBN	: **2073-4352**
	c. Tahun Terbit, (tempat pelaksanaan jika prosiding)	: 2020, *10*(9), 757
	d. Penerbit/Organiser	: MDPI Multidisciplinary Digital Publishing Institute
	e. Alamat repository PT/ Web	: http://repository.unmuhjember.ac.id/8739/
	f. Terindek di (jika ada)	: SCOPUS (Q2 SJR 0.54)

Kategori Publikasi Artikel Ilmiah (Beri √ pada kategori yang tepat)

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Kecukupan dan kemutakhiran data informasi dan metodelogi (30%)	12					11
Kelengkapan unsur dan kualitas penerbit (30%)	12					12
Total 100%	40					37,5
Kontribusi Penguasul (Penulis Pertama/ Anggota Utama)						60% x 37,5 = 22,5
Komentar Peer Review	1. Tentang Kelengkapan dan kesesuain unsur : Lengkap dan sesuai Tulisan IMRAD & bud. Jurnal 2. Tentang Ruang Lingkup dan kedalaman pembahasan : Ruang lingkup sesuai bidang tentang Beton berlubang. Pembahasan mendalam, ada Velty 3. Kecukupan, Kemutakhiran data serta metodelogi : Referensi terbaru, kemutakhiran metode ada novelty (ANN method) 4. Kelengkapan unsur kualitas penerbit : Sangat lengkap, ada jurnal, DOI 5. Indikasi Plagiasi: tidak ada, total similarity 13% 6. Kesesuian bidang ilmu : Sesuai bidang ilmu penulis					

Malang, 5 Maret 2021
Reviewer 1

(**Prof. Dr. Ir. Sri Murni Dewi, MS.**)
NPK/NIP. 195112111981032001
Unit kerja: Teknik Sipil UB Malang
Jafung : Guru Besar
Bidang Ilmu : Teknik Sipil

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HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW*

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Identitians Jurnal/Prosiding	: a. Nama Jurnal/ Prosiding	: Crystals
	b. ISSN/ISBN	: **2073-4352**
	c. Tahun Terbit, (tempat pelaksanaan jika prosiding)	: 2020, *10*(9), 757
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	f. Terindek di (jika ada)	: SCOPUS (Q2 SJR 0.54)

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Kelengkapan unsur dan kualitas penerbit (30%)	12					12
Total 100%	40					37,5
Kontribusi Pengusul (Penulis Pertama/ ~~Anggota Utama~~)						60 % x 37,5 = 22,5

Komentar Peer Review

1. Tentang Kelengkapan dan kesesuain unsur : Lengkap dan sesuai untuk IMRAD suatu jurnal
2. Tentang Ruang Lingkup dan kedalaman pembahasan : Lingkup riset sesuai bidang tentang beton beton-ang bambu, mendalam dg analisa AWV, novelty berupa kentang kekokuan bolt, BRC, ditulis baik
3. Kecukupan, Kemutakhiran data serta metodelogi : Referensi sangat relevan dari jurnal dan mutakhir
4. Kelengkapan unsur kualitas penerbit : Lengkap dg kualitas penerbit ternama, jurnal Q2
5. Indikasi Plagiasi : tidak ada, Total Similarity 13% Cukup aman
6. Kesesuian bidang ilmu : Sangat sesuai dan linier dengan bidang penulis

Malang, 5 Maret 2021
Reviewer 2

(**Prof. Dr. Ir. Rudy Soenoko, M.Eng.Sc.**)
NPK/NIP. 194909111984031001
Unit kerja : Teknik Mesin UB Malang
Jafung : Guru Besar
Bidang Ilmu : Teknik Mesin

Article Information Overview

Manuscript ID	**crystals-899744**
Status	Website online
DOI	10.3390/cryst10090757
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Banner	Download Banner (PDF)
Website Links	Abstract HTML version PDF version Manuscript
Article type	Article
Title	The Prediction of Stiffness of Bamboo-Reinforced Concrete Beams Using Experiment Data and Artificial Neural Networks (ANNs)
Journal	*Crystals*
Volume	10
Issue	9
Section	Industrial Crystallization
Special Issue	Numerical Study of Concrete
Abstract	Stiffness is the main parameter of the beam's resistance to deformation. Based on advanced research, the stiffness of bamboo-reinforced concrete beams (BRC) tends to be lower than the stiffness of steel-reinforced concrete beams (SRC). However, the advantage of bamboo-reinforced concrete beams has enough good ductility according to the fundamental properties of bamboo, which have high tensile strength and high elastic properties. This study aims to predict and validate the stiffness of bamboo-reinforced concrete beams from the experimental results data using artificial neural networks (ANNs). The number of beam test specimens were 25 pieces with a size of 75 mm × 150 mm × 1100 mm. The testing method uses the four-point method with simple support. The results of the analysis showed the similarity between the stiffness of the beam's experimental results with the artificial neural network (ANN) analysis results. The similarity rate of the two analyses is around 99% and the percentage of errors is not more than 1%, both for bamboo-reinforced concrete beams (BRC) and steel-reinforced concrete beams (SRC).
Keywords	bamboo-reinforced concrete (BRC); stiffness prediction; artificial neural network (ANN)

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Editor Decision

Decision	Accept in current form
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Review Report

Reviewer 1	Review Report (Round 1)
Reviewer 2	Review Report (Round 1)

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Total Payment Amount:	1,600.00 CHF

Previously Published Papers

Muhtar. Precast Bridges of Bamboo Reinforced Concrete in Disadvantaged Village Areas in Indonesia. *Appl. Sci.* **2020**, *10*, 7158. doi: 10.3390/app10207158

Muhtar. The Prediction of Stiffness Reduction Non-Linear Phase in Bamboo Reinforced Concrete Beam Using the Finite Element Method (FEM) and Artificial Neural Networks (ANNs). *Forests* **2020**, *11*, 1313. doi: 10.3390/f11121313

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[Crystals] Manuscript ID: crystals-899744 - Submission Received

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Kam, 30 Jul 06.15
kepada saya, Amri, Suhardi, Nursaid, Irawati, Ilanka, Dasuki, Sofia, Fitriana, Idris, Taufan, Miftahur, Syarif, Agung, Senki, Ari, Rofi

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Journal name: Crystals
Manuscript ID: crystals-899744
Type of manuscript: Article
Title: The prediction of stiffness of Bamboo Reinforced Concrete Beams Using Experiment Data and Artificial Neural Networks (ANN)
Authors: Muhtar Muhtar *, Amri Gunasti, Suhardi Suhardi, Nursaid Nursaid, Irawati Irawati, Ilanka Cahya Dewi, Moh. Dasuki, Sofia Ariyani, Fitriana Fitriana, Idris Mahmudi, Taufan Abadi, Miftahur Rahman, Syarif Hidayatullah, Agung Nilogiri, Senki Desta Galuh, Ari Eko Wardoyo, Rofi Budi Hamduwibawa
Received: 30 July 2020
E-mails: muhtar@unmuhjember.ac.id, amrigunasti@unmuhjember.ac.id, hardi.ftp@unej.ac.id, nursaid@unmuhjember.ac.id, irawati@unmuhjember.ac.id, ilankadewi@unmuhjember.ac.id, moh.dasuki22@unmuhjember.ac.id, sofia.ariyani@unmuhjember.ac.id, fitriana@unmuhjember.ac.id, idrismahmudi@unmuhjember.ac.id, taufan.abadi@unmuhjember.ac.id, mifyahurrahman@unmuhjember.ac.id, syarifhidayatullah@unmuhjember.ac.id, agungnilogiri@unmuhjember.ac.id, senki.desta@unmuhjember.ac.id, arieko@unmuhjember.ac.id, rofi.hamduwibawa@unmuhjember.ac.id
Submitted to section: Crystal Engineering,
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Numerical Study of Concrete
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[Crystals] Manuscript ID: crystals-899744 - Assistant Editor Assigned

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Messi Zhang <messi.zhang@mdpi.com> Sen, 3 Agu 15.47

kepada saya, Messi, Amri, Suhardi, Nursaid, Irawati, Ilanka, Dasuki, Sofia, Fitriana, Idris, Taufan, Miftahur, Syarif, Agung, Senki, Ari, Rofi, Crystals

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Dear Dr. Muhtar,

Your manuscript has been assigned to Messi Zhang for further processing who will act as a point of contact for any questions related to your paper.

Journal: Crystals
Manuscript ID: crystals-899744
Title: The prediction of stiffness of Bamboo Reinforced Concrete Beams Using Experiment Data and Artificial Neural Networks (ANN)
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[Crystals] Manuscript ID: crystals-899744 - Minor Revisions

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kepada saya, Amri, Suhardi, Nursaid, Irawati, Ilanka, Dasuki, Sofia, Fitriana, Idris, Taufan, Miftahur, Syarif, Agung, Senki, Ari, Rofi, Crystals

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Submitted to section: Crystal Engineering,
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Submission System <submission@mdpi.com> Rab, 19 Agu 02.04

kepada saya, Amri, Suhardi, Nursaid, Irawati, Ilanka, Dasuki, Sofia, Fitriana, Idris, Taufan, Miftahur, Syarif, Agung, Senki, Ari, Rofi

Dear Dr. Muhtar,

Thank you very much for resubmitting the modified version of the following manuscript:

Manuscript ID: crystals-899744
Type of manuscript: Article
Title: The prediction of stiffness of Bamboo Reinforced Concrete Beams Using Experiment Data and Artificial Neural Networks (ANN)
Authors: Muhtar Muhtar *, Amri Gunasti, Suhardi Suhardi, Nursaid Nursaid, Irawati Irawati, Ilanka Cahya Dewi, Moh. Dasuki, Sofia Ariyani, Fitriana Fitriana, Idris Mahmudi, Taufan Abadi, Miftahur Rahman, Syarif Hidayatullah, Agung Nilogiri, Senki Desta Galuh, Ari Eko Wardoyo, Rofi Budi Hamduwibawa
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Submitted to section: Crystal Engineering,
https://www.mdpi.com/journal/crystals/sections/crystal_engineering
Numerical Study of Concrete
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A member of the editorial office will be in touch with you soon regarding progress of the manuscript.

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[Crystals] Manuscript ID: crystals-899744 - Accepted for Publication

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Messi Zhang <messi.zhang@mdpi.com> Rab, 19 Agu 10.42

kepada saya, Amri, Suhardi, Nursaid, Irawati, Ilanka, Dasuki, Sofia, Fitriana, Idris, Taufan, Miftahur, Syarif, Agung, Senki, Ari, Rofi, Crystals, Messi

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Dear Dr. Muhtar,

We are pleased to inform you that the following paper has been officially accepted for publication:

Manuscript ID: crystals-899744
Type of manuscript: Article
Title: The prediction of stiffness of Bamboo Reinforced Concrete Beams Using Experiment Data and Artificial Neural Networks (ANN)
Authors: Muhtar Muhtar *, Amri Gunasti, Suhardi Suhardi, Nursaid Nursaid, Irawati Irawati, Ilanka Cahya Dewi, Moh. Dasuki, Sofia Ariyani, Fitriana Fitriana, Idris Mahmudi, Taufan Abadi, Miftahur Rahman, Syarif Hidayatullah, Agung Nilogiri, Senki Desta Galuh, Ari Eko Wardoyo, Rofi Budi Hamduwibawa
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Kind regards,
Mr.Messi.Zhang
Assistant Editor
E-Mail: messi.zhang@mdpi.com

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[Crystals] Manuscript ID: crystals-899744 - Final Proofreading Before Publication

Kotak Masuk ×

Messi Zhang <messi.zhang@mdpi.com> Kam, 20 Agu 10.38

kepada saya, Amri, Suhardi, Nursaid, Irawati, Ilanka, Dasuki, Sofia, Fitriana, Idris, Taufan, Miftahur, Syarif, Agung, Senki, Ari, Rofi, Crystals

Dear Dr. Muhtar,

We invite you to proofread your manuscript to ensure that this is the final version that can be published and confirm that you will require no further changes from hereon:

Manuscript ID: crystals-899744
Type of manuscript: Article
Title: The prediction of stiffness of Bamboo Reinforced Concrete Beams Using Experiment Data and Artificial Neural Networks (ANN)
Authors: Muhtar Muhtar *, Amri Gunasti, Suhardi Suhardi, Nursaid Nursaid, Irawati Irawati, Ilanka Cahya Dewi, Moh. Dasuki, Sofia Ariyani, Fitriana Fitriana, Idris Mahmudi, Taufan Abadi, Miftahur Rahman, Syarif Hidayatullah, Agung Nilogiri, Senki Desta Galuh, Ari Eko Wardoyo, Rofi Budi Hamduwibawa
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Kind regards,

Mr.Messi.Zhang
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Yes, I confirm. | Yes, everything is correct. | I don't agree.

Balas | Balas ke semua | Teruskan

Response to Reviewer 1 Comments

Point 1: Abstract: the abstract also should refer to the results of the comparison of bamboo and steel reinforced beams.

Response 1: The results of the analysis showed the similarity between the stiffness of the beam's experimental results with the Artificial Neural Networks (ANN) analysis results. The similarity rate of the two analyzes is around 99% or the percentage of errors is not more than 1%, both for bamboo reinforced concrete beams (BRC) and steel-reinforced concrete beams (SRC). This sentence was written in the last sentence of the abstract

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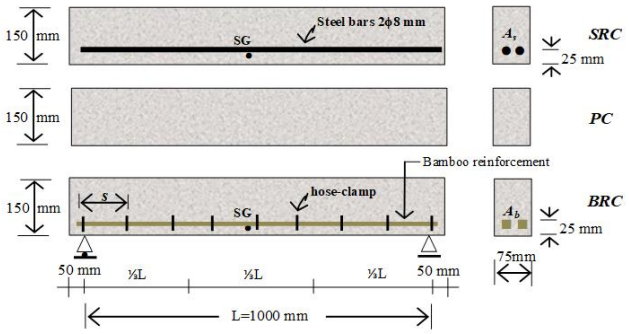

Information:
SRC = Steel reinforced concrete
BRC = Bamboo reinforced concrete
PC = Plain concrete
SG = Strain gauge
s = Distance of hose-clamp
(Variation of s0 = 0 cm, s1 = 15 cm, s2 = 20 cm, and s3 = 25 cm)
A_s = Area of steel reinforced (As = 100,48 mm²)
A_b = Area of bamboo reinforced
(Variation of Ab = 140 mm², 200 mm², and 450 mm²)

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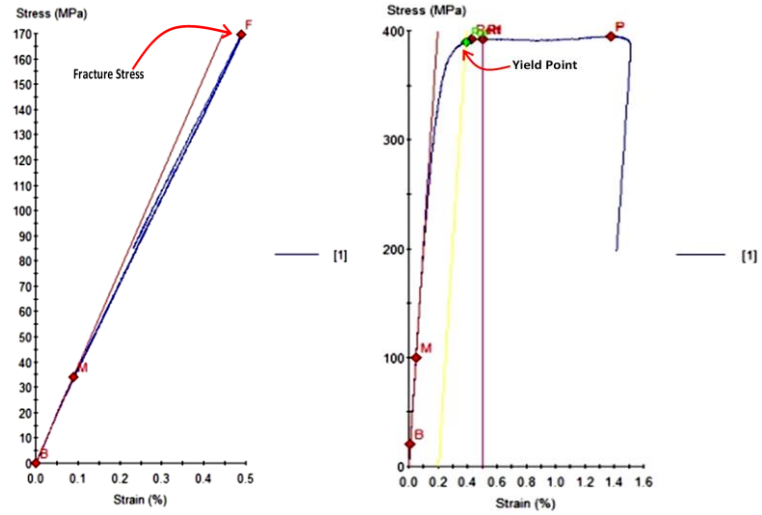
Response 5: It has been clarified as shown in the Figure below.



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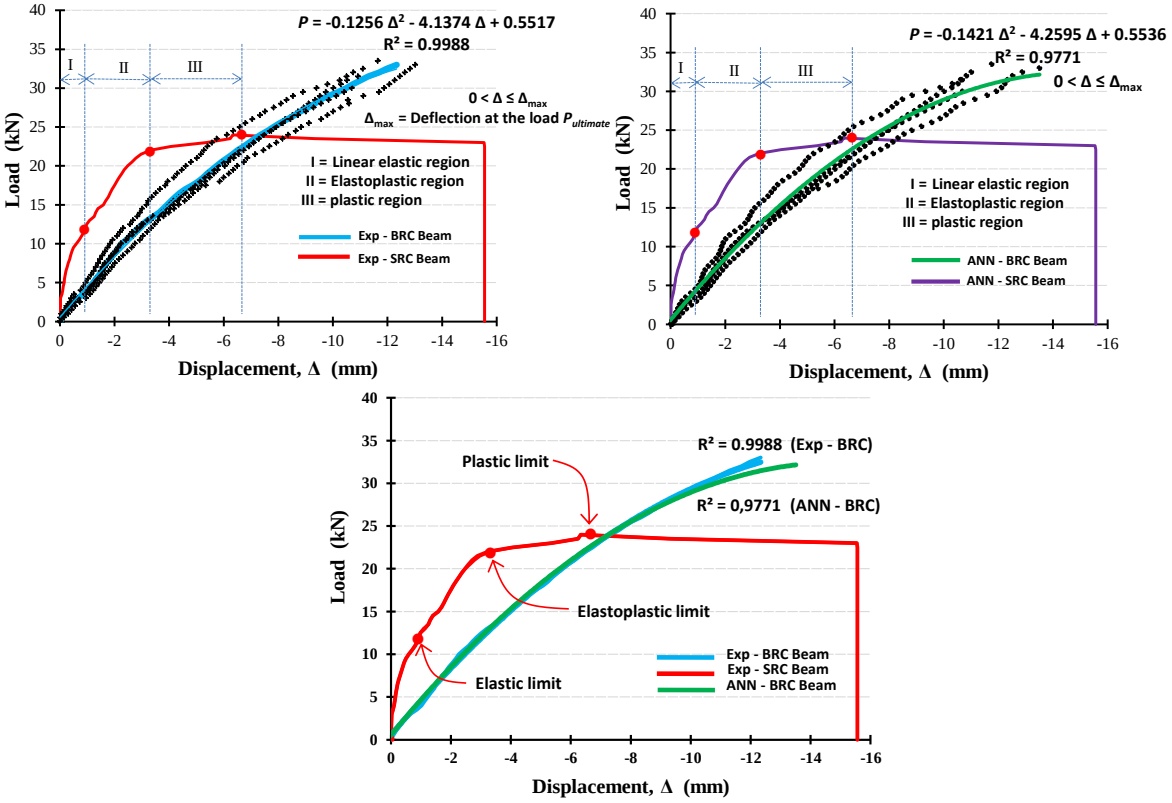

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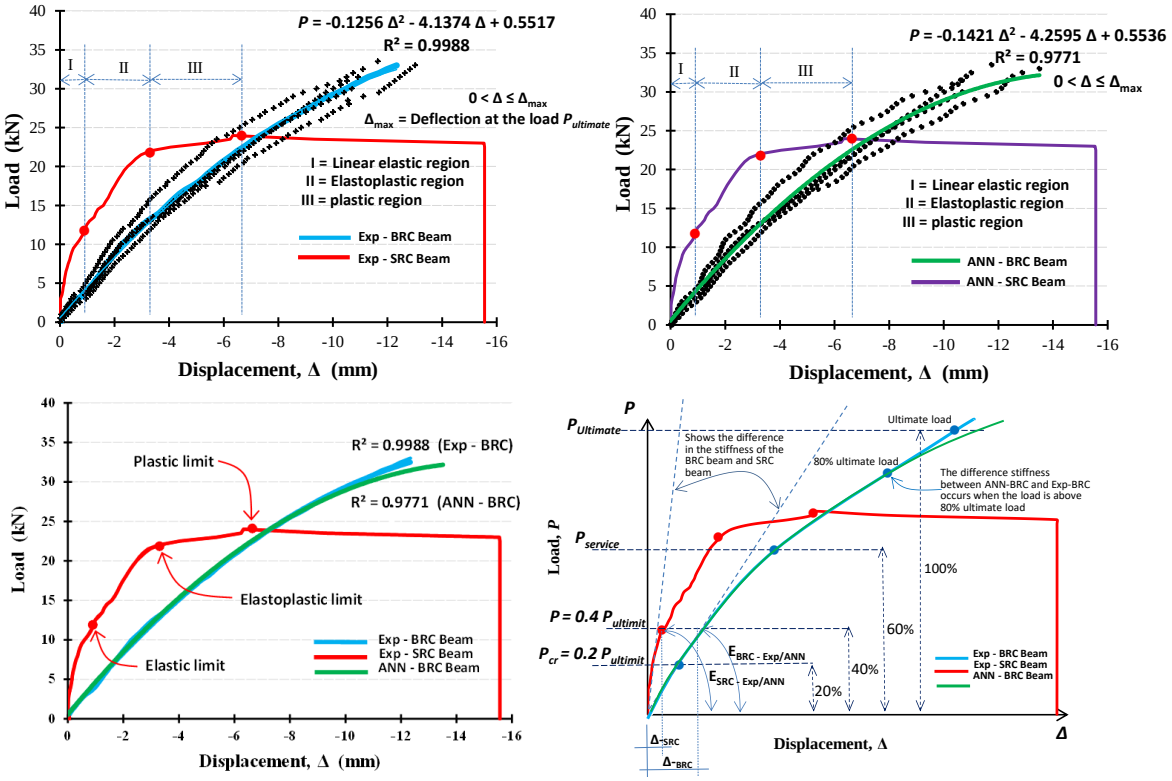

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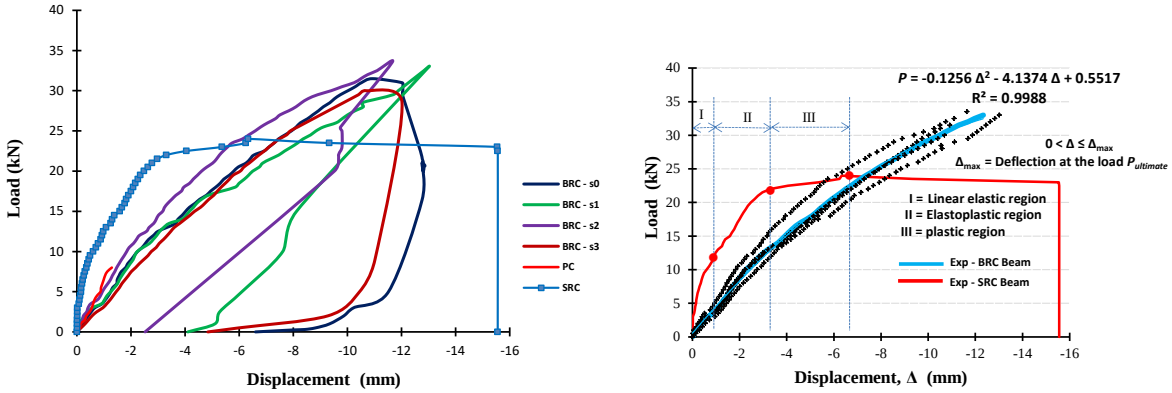

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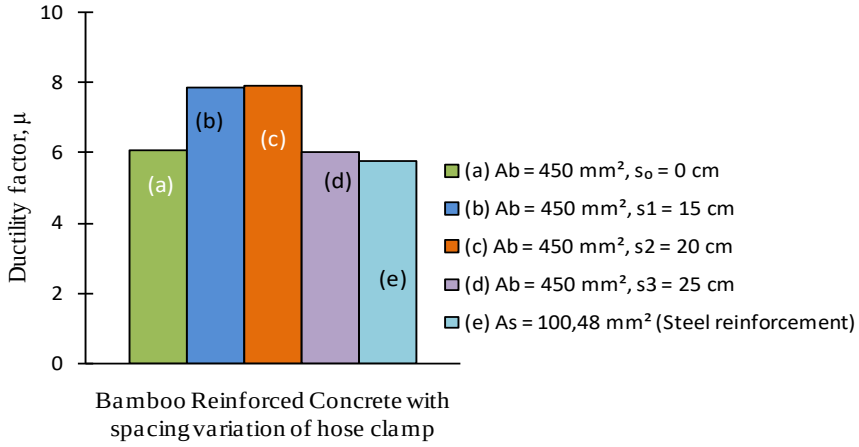

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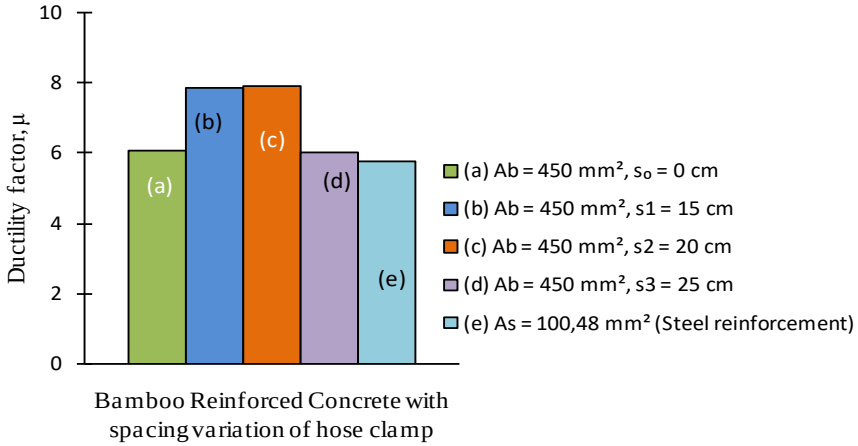

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Journal: Crystals (ISSN 2073-4352)
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Type: Article
Number of Pages: 12

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Author's Notes: Response to Reviewer 1 Comments

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Author's Notes File Report Notes

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English language and style

( ) Extensive editing of English language and style required
( ) Moderate English changes required
( ) English language and style are fine/minor spell check required
(x) I don't feel qualified to judge about the English language and style

	Yes	Can be improved	Must be improved	Not applicable
Does the introduction provide sufficient background and include all relevant references?	( )	(x)	( )	( )
Is the research design appropriate?	(x)	( )	( )	( )
Are the methods adequately described?	( )	(x)	( )	( )
Are the results clearly presented?	( )	( )	(x)	( )
Are the conclusions supported by the results?	( )	( )	(x)	( )

Comments and Suggestions for Authors

The article presents interesting research on the static work of bamboo-reinforced concrete beams. The behavior of the beams under loading is compared to a classic beam with steel bar reinforcement. The stiffness results obtained experimentally are compared with the results obtained using the Artificial Neural Networks method. Before publication, please consider the following comments:

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Submission Date	03 August 2020
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Authors' Responses to Reviewer's Comments (Reviewer 2)

Author's Notes: Response to Reviewer 2 Comments

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Are the conclusions supported by the results?	( )	(x)	( )	( )

Comments and Suggestions for Authors

Dear Authors,

This paper is interesting because it proposes the use of an advanced method of optimization with neural networks for the prediction of stiffness of Bamboo Reinforced Concrete Beams.

And in terms of notable elements

Using neural networks for prediction of stiffness of Bamboo Reinforced Concrete Beams is assessed by the ability of neural networks to adapt phenomena Box black with a strong nonlinear character.

As weak elements:

The "Discussions" and "Conclusions" chapters could have been broader. The conclusions are far too expeditious.

I wish to see more information on initial tests - a table of various sizes that were on the 25 cases.

It would have been useful for the accuracy of the results to use advanced experimental planning using the Design of experiment method.

The bibliography could have been more consistent for such a subject.

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