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**Fwd: Major Revisions requested SNCS-D-24-05329**

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**Dr. B. R. Chandavarkar** <brc@nitk.edu.in>

Mon, Jan 13, 2025 at 11:14 AM

To: Chintha Gnana Jyothi &lt;chinthagannajyothi.221cs118@nitk.edu.in&gt;, Prathapa Chandana Sai Sri Hasitha &lt;prathapachandanasaisrihasitha.221cs139@nitk.edu.in&gt;, Namburi Yaswanth &lt;namburiyaswanth.221cs232@nitk.edu.in&gt;

Dear students,

Refer to the attached comments. Acknowledge.

Best wishes.

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

From: **SN Computer Science - Editorial Office** <em@editorialmanager.com>

Date: Fri, 10 Jan 2025 at 12:42

Subject: Major Revisions requested SNCS-D-24-05329

To: B R Chandavarkar &lt;brc@nitk.edu.in&gt;

Dear Dr. Chandavarkar,

We have received the reports from our advisors on your manuscript, 'SNR-Responsive Communication: Turbo Codes and BCH in a Dynamic HARQ Scheme for Enhanced Efficiency', which you submitted to SN Computer Science.

Based on the advice received, I have decided that your manuscript could be reconsidered for publication should you be prepared to incorporate major revisions. When preparing your revised manuscript, you are asked to carefully consider the reviewer comments which can be found below, and submit a list of responses to the comments. You are kindly requested to also check the website for possible reviewer attachment(s).

While submitting, please check the filled in author data carefully and update them if applicable - they need to be complete and correct in order for the revision to be processed further.

In order to submit your revised manuscript, please access the following web site:

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Your username is: [brc@nitk.edu.in](mailto:brc@nitk.edu.in)

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We look forward to receiving your revised manuscript before 09 Feb 2025

Please note: When uploading your revised manuscript files, please make sure only to submit your editable source files (i.e. Word, Tex). PDF is not allowed at this stage.

In order to add the due date to your electronic calendar, please open the attached file.

With kind regards,

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Lead Guest Editor  
SN Computer Science

Comments to the author (if any):

Reviewer #1: 1. The literature survey is very poor. The reviewer is confused regarding the category of this paper. It should be a technical paper, but it looks like a review paper. Moreover, the literature survey should be more comprehensive and it should reflect the literature gap very clearly.

2. There are lots of equations presented in the manuscript. But no proper citation of those equations/mathematical model has been shown.

### 3. The author should establish the performance of the proposed technique.

Reviewer #2: The paper proposes a novel Dynamic Hybrid Automatic Repeat Request (D-HARQ) scheme that adaptively switches between ARQ, HARQ with Turbo Codes, and HARQ with BCH codes based on the channel's Signal-to-Noise Ratio (SNR) to optimize throughput and error correction. The authors also incorporate a selective soft combining technique to further enhance performance.

The paper is well-structured and the proposed solution is clearly explained. However, there are a few areas that need improvement before the paper can be accepted for publication:

- Provide more details on the switching criteria and thresholds used to determine when to switch between the different HARQ schemes based on SNR. The current explanation is a bit vague.
- Elaborate on the selective soft combining technique and how it decides which packets to combine based on SNR. The concept is introduced but more details are needed.
- Compare the performance of D-HARQ with other adaptive HARQ schemes like those using Reed-Solomon codes or BCH codes. Quantify the throughput and latency improvements.
- Discuss the complexity and implementation overhead of D-HARQ compared to simpler HARQ schemes. Justify why the added complexity is worthwhile.
- Validate the proposed scheme through more extensive simulations covering a wider range of channel conditions and traffic patterns. The current results are limited.
- Proofread the manuscript carefully for typos and grammatical errors. There are a few instances that need correction.

Reviewer #3: Paper is not up to the standard of scopus journal.

#### Reviewer #4: OVERVIEW

The paper introduces a new coding scheme named Dynamic HARQ (D-HARQ) adapted to channel conditions during transmission.

#### POSITIVE POINTS

The paper introduces a new technique that shows an interesting result concerning throughput even at low SNR values while keeping optimal complexity.

#### USE OF ENGLISH: GRAMMAR FAULTS, TYPOS, ETC.

retransmission by increasing the  $E_b/N_0$  ratio. In incremental redundancy  $\rightarrow$  retransmission by increasing the  $E_b/N_0$  ratio.

In incremental redundancy

the bitstream undergoes Interleaving  $\rightarrow$  the bitstream undergoes interleaving

Interleaving (Fig. 8)  $\rightarrow$  Interleaving

#### REFERENCES

Some references are too old, but are from international journals and conferences.

Reviewer #6:  $\rightarrow$  Literature survey should be more

$\rightarrow$  Only few papers have discussed in literature survey [12-15] and all papers also very old. Compare and contrast with some recent papers.

$\rightarrow$  Many equations used by the author not clearly proposed where it has been derived or self written by the author (citation is required)

$\rightarrow$  All the parameters used in the equation should be explained for better understanding of the reader

$\rightarrow$  After equation 10 and before 11 the equation of throughput equation is not numbered and require proper explanation

$\rightarrow$  For simulation author should mention the versions of Matlab and Python software

There is additional documentation related to this decision letter. To access the file(s), please click the link below. You may also login to the system and click the 'View Attachments' link in the Action column.

<https://www.editorialmanager.com/snscs/l.asp?i=1142460&l=Z0DBEYOQ>

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