

[Review Form 2](#)

Book Name:	<a href="#">Scientific Research, New Technologies and Applications</a>
Manuscript Number:	Ms_BPR_3700
Title of the Manuscript:	Image Compression Based On Multiple Parameter Discrete Fractional Fourier Transform for Satellite and Medical Images
Type of the Article	BOOK CHAPTER

**PART 1: Review Comments**

<b>Compulsory</b> REVISION comments	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.	This manuscript addresses an important topic in the field of image compression, particularly in satellite and medical imaging, where storage and transmission efficiency are crucial. The proposed method, based on MPDFRFT, demonstrates significant improvements in compression quality and performance compared to existing techniques. Its contributions could enhance both theoretical understanding and practical applications in high-resolution image processing. However, the paper would benefit from clearer and broader implications of its results.	
Is the title of the article suitable? (If not please suggest an alternative title)	The title is somewhat descriptive but could be refined for clarity and focus. Suggested alternative title: "Image Compression Using Multiple Parameter Discrete Fractional Fourier Transform: A Novel Approach for Satellite and Medical Imaging" This title emphasizes both the methodology and its specific application areas.	
Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	The abstract is comprehensive but overly dense. Simplifying technical details and clearly stating the approach would improve readability. For example, highlight the unique aspects of MPDFRFT over other transforms and briefly summarize the key results (e.g., PSNR improvements and compression ratios). Remove excessive emphasis on methodology specifics to keep the focus on outcomes and impact.	
Are subsections and structure of the manuscript appropriate?	The structure of the manuscript is generally appropriate, but the following areas need improvement: <ul style="list-style-type: none"> <li>Section 3 (Proposed Model) could include a flowchart or block diagram for better comprehension.</li> <li>Simulation results could be more concisely presented, with a summary table comparing PSNR and compression ratios for different quality factors across methods.</li> <li>The conclusion should include limitations and potential areas for future work.</li> </ul>	
Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.	The manuscript appears scientifically robust, with a well-structured methodology and rigorous performance evaluation. The mathematical formulations are sound, and the proposed MPDFRFT model is novel and demonstrates significant improvements over existing techniques. However, clearer derivation of optimal fractional orders ppp and qqq and more extensive benchmarking against recent methods would enhance the scientific credibility.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. :	The references include foundational works but lack recent contributions (post-2015). Adding citations to recent advancements in image compression, particularly using fractional transforms and deep learning-based methods, would strengthen the manuscript. Suggested areas for references: <ul style="list-style-type: none"> <li>Advances in fractional Fourier transform applications for image processing.</li> <li>Recent image compression methods leveraging hybrid or AI-driven approaches.</li> </ul>	

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<p>Minor REVISION comments</p> <p><b>Is the language/English quality of the article suitable for scholarly communications?</b></p>	<p>The language is suitable for scholarly communication, but some sentences are overly complex. Simplify technical descriptions and proofread for minor grammatical issues (e.g., punctuation and flow).</p> <ul style="list-style-type: none"> <li>• Include legends and better axis labels in figures for improved clarity.</li> <li>• Expand on the rationale for choosing specific test images and fractional orders.</li> <li>• Improve figure resolutions to enhance visibility.</li> </ul>	
<p><b>Optional/General</b> comments</p>	<p>The manuscript makes a strong contribution to the field of image compression, particularly for specialized domains like satellite and medical imaging. Addressing the highlighted points will significantly enhance its clarity, accessibility, and impact.</p> <p><b>The manuscript demonstrates scientific rigor and novelty, particularly in applying the MPDFRFT for image compression. However, the following areas require significant improvement before it can be considered for acceptance:</b></p> <ol style="list-style-type: none"> <li><b>Clarity and Presentation:</b> <ul style="list-style-type: none"> <li>○ Simplify technical descriptions and enhance the flow of the manuscript.</li> <li>○ Improve figures, tables, and their explanations to make results more accessible.</li> </ul> </li> <li><b>Comparative Analysis:</b> <ul style="list-style-type: none"> <li>○ Broaden the discussion to include comparisons with more recent methods.</li> <li>○ Better justify the selection of test parameters and datasets.</li> </ul> </li> <li><b>References:</b> <ul style="list-style-type: none"> <li>○ Include more recent works to strengthen the literature review.</li> </ul> </li> </ol> <p><b>While the manuscript is scientifically sound and holds promise for practical applications, addressing these issues is critical for enhancing its quality and impact.</b></p>	

**PART 2:**

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p><b>Are there ethical issues in this manuscript?</b></p>	<p><i>(If yes. Kindly please write down the ethical issues here in details)</i></p>	

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