



SDI Review Form 1.6

Journal Name:	British Journal of Applied Science & Technology
Manuscript Number:	Ms_BJAST_31213
Title of the Manuscript:	On the inverting of a general heptadiagonal matrix
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

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PART 1: Review Comments

	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)
<u>Compulsory</u> REVISION comments	1. Page 8,9,10. I'd want the Maple procedure (SINVHEPTA p. 8) originally written in Maple -and not a PDF copy- When I copy on my Maple18 your PDF program, it does not work. Add an example of how to use the procedure hepta inv.	I have attached a copy from my original Maple program and it contains the details of running example 4.2. This file written as a Maple code and you should open it using Maple. Reviewer can open it via Maple software.
	2. Page 1, lines -11,-10,-9. Give explicitly at least one (interesting) example where the heptagonal matrices are used. The interest of tridiagonal matrices is well known but this is not the case for heptadiagonal matrices.	√
	3. Page 2, Main Result. NINVHEPTA is valid on any field K of characteristic 0. Yet, the algorithm use $O(n^2)$ elementary operations in K. Indeed, the multiplication of a vector by an element of K needs n multiplications in the field. Anyway, H^{-1} contains n^2 distinct elements; consequently, the number of required elementary operations (in order to calculate the inverse of H) is at least n^2 .	√
	4- Page 3. You use C_i as scalar. Page 2, C_i represents a vector...	I changed C_i to Col_i in this page and the other related pages.
	5- Page 4. SINVHEPTA is not really a symbolic algorithm. You consider t, a non-zero variable; in a second step, t tends to 0. You use the continuity of the application $X \rightarrow X^{-1}$ in an invertible matrix H.	I considered it as a symbolic name not a non-zero variable and in the final result I substituted the actual value $t=0$ (not tends to 0) in all expressions to obtain the elements of columns.
	6- Page 5, line 7. The cost $103n + 69$ is false. cf. Point 3.	I modified it.
	7- It must be made clear from the introduction that SIN	I added explanation in the introduction.



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	resolves by continuity all the cases that escape to NIN.	
	8- Page 7, line -2. $ i - j \leq 3$ (???)	The difference between the indices must be more than 3 to cover all elements in the random heptadiagonal matrix.
	9- Abstract. Remove the reference to a symbolic algorithm. Replace the cost $O(n)$ with $O(n^2)$.	√
	10- Abstract, line 1. ..., the author presents a new algorithm computing the inverse of any ... Remove the second sentence.	√
	11 Page 2, line 3. ... the inverse of a general invertible heptadiagonal ...	√
	12 Page 7. Detail what is CHEPTA. Does it work on a general heptadiagonal? Anyway, its calculation times are the same as those of SIN.	√
	13 12. You must give a reference for Maple.	I have added one (last reference).
<u>Minor</u> REVISION comments		
<u>Optional/General</u> comments		