

(12) PATENT APPLICATION PUBLICATION  
(19) INDIA  
(22) Date of filing of Application :09/08/2021

(21) Application No.202141035934 A  
(43) Publication Date : 13/08/2021

(54) Title of the invention : Structural and Fluid Dynamics Boundary Value Limitations Approximated Solution in Engineering Applications

(51) International classification	:G06F0030230000, G06F0111040000, G06F0009455000, G06F0017130000, G01M0010000000	(71)Name of Applicant : <b>1)Dr. K. Ramesh Babu, Assistant Professor/ Department of H&amp;S, MVSR Engineering college</b> Address of Applicant :MVSR Engineering college, Nadergul, Hyderabad, Telangana-501510. Telangana India <b>2)Dr.P. Suresh, Assistant Professor/ Department of Mathematics, Chaitanya Bharathi Institute of Technology (A).</b> <b>3)M. Chalapathi Rao, Assistant Professor/ Department of H&amp;S, Sri Indu College of Engineering &amp; Technology (Autonomous).</b> <b>4)S. Praveen Kumar, Assistant Professor/ Department of H&amp;S, Sri Indu College of Engineering &amp; Technology (Autonomous).</b> <b>5)Ponneyboina Manjula, Assistant Professor/ Department of H&amp;S, Sri Indu College of Engineering &amp; Technology (Autonomous).</b> <b>6)Dr.A.Mythreye, Associate Professor/ Department of H&amp;S, Stanley College of Engineering and Technology for Women.</b> <b>7)Dr. P. Srilatha, Associate Professor /Department of Mathematics, Institute of Aeronautical Engineering.</b> <b>8)Dr. G. Rami Reddy, Professor/ Department of Mathematics, Malla Reddy Engineering College (A).</b>
(31) Priority Document No	:NA	(72)Name of Inventor :
(32) Priority Date	:NA	<b>1)Dr. K. Ramesh Babu, Assistant Professor/ Department of H&amp;S, MVSR Engineering college</b>
(33) Name of priority country	:NA	<b>2)Dr.P. Suresh, Assistant Professor/ Department of Mathematics, Chaitanya Bharathi Institute of Technology (A).</b>
(86) International Application No	:PCT//	<b>3)M. Chalapathi Rao, Assistant Professor/ Department of H&amp;S, Sri Indu College of Engineering &amp; Technology (Autonomous).</b>
Filing Date	:01/01/1900	<b>4)S. Praveen Kumar, Assistant Professor/ Department of H&amp;S, Sri Indu College of Engineering &amp; Technology (Autonomous).</b>
(87) International Publication No	: NA	<b>5)Ponneyboina Manjula, Assistant Professor/ Department of H&amp;S, Sri Indu College of Engineering &amp; Technology (Autonomous).</b>
(61) Patent of Addition to Application Number	:NA	<b>6)Dr.A.Mythreye, Associate Professor/ Department of H&amp;S, Stanley College of Engineering and Technology for Women.</b>
Filing Date	:NA	<b>7)Dr. P. Srilatha, Associate Professor /Department of Mathematics, Institute of Aeronautical Engineering.</b>
(62) Divisional to Application Number	:NA	<b>8)Dr. G. Rami Reddy, Professor/ Department of Mathematics, Malla Reddy Engineering College (A).</b>
Filing Date	:NA	

(57) Abstract :

Abstract As a boundary value problem solver, the variational iteration method (VIM) is advantageous in structural engineering and fluid dynamics analysis problems. Models of these complications are used to study viscoelastic and inelastic flows, beam distortion, and plate bending. The exact answers and the outcomes of the variational iteration method are compared (VIM). According to the outcomes, this strategy is highly successful, straightforward, and provides exact solutions. Using this strategy for addressing linear and nonlinear boundary limitation problems were demonstrated.

No. of Pages : 16 No. of Claims : 3



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Ministry of Commerce & Industry,  
Government of India

(<http://ipindia.nic.in/index.htm>)



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#### Application Details

APPLICATION NUMBER	202141035934
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	09/08/2021
APPLICANT NAME	1 . Dr. K. Ramesh Babu, Assistant Professor/ Department of H&S, MVSR Engineering college 2 . Dr.P. Suresh, Assistant Professor/ Department of Mathematics, Chaitanya Bharathi Institute of Technology (A). 3 . M. Chalapathi Rao, Assistant Professor/ Department of H&S, Sri Indu College of Engineering & Technology (Autonomous). 4 . S. Praveen Kumar, Assistant Professor/ Department of H&S, Sri Indu College of Engineering & Technology (Autonomous). 5 . Ponneyboina Manjula, Assistant Professor/ Department of H&S, Sri Indu College of Engineering & Technology (Autonomous). 6 . Dr.A.Mythreye, Associate Professor/ Department of H&S, Stanley College of Engineering and Technology for Women. 7 . Dr. F. Srilatha, Associate Professor /Department of Mathematics, Institute of Aeronautical Engineering. 8 . Dr. G. Rami Reddy, Professor/ Department of Mathematics, Malla Reddy Engineering College (A).
TITLE OF INVENTION	Structural and Fluid Dynamics Boundary Value Limitations Approximated Solution in Engineering Applications
FIELD OF INVENTION	COMPUTER SCIENCE
E-MAIL (As Per Record)	senanipindia@gmail.com
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E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	13/08/2021

#### Application Status

APPLICATION STATUS	<b>Awaiting Request for Examination</b>
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[View Documents](#)

➡ Filed ➡ Published ➡ RQ Filed ➡ Under Examination ➡ Disposed

In case of any discrepancy in status, kindly contact [ipo-helpdesk@nic.in](mailto:ipo-helpdesk@nic.in)

<b>FORM 1</b>				<b>(FOR OFFICE USE ONLY)</b>	
<b>THE PATENTS ACT 1970</b> <b>(39 of 1970)</b> <b>&amp;</b> <b>The Patents rules, 2003</b> <b>APPLICATION FOR GRANT OF PATENT</b> <b>[See section 7, 54 &amp; 135 and rule 20 (1)]</b>				<b>Application No:</b> <b>Filing Date:</b> <b>Amount of Fee Paid:</b> <b>CBR No:</b> <b>Signature:</b>	
<b>1. APPLICANT'S REFERENCE / IDENTIFICATION</b>					
<b>NO. (AS ALLOTTED BY OFFICE)</b>					
<b>2. TYPE OF APPLICATION [Please tick (√) at the appropriate category]</b>					
Ordinary (√)		Convention ( )		PCT-NP ( )	
Divisional ( )	Patent of Addition ( )	Divisional ( )	Patent of Addition ( )	Divisional ( )	Patent of Addition ( )
<b>3. (3A) APPLICANT</b>					
Name		Nationality	Country of Residence	Address	
Dr. K. Ramesh Babu, Assistant Professor/ Department of H&S, <b>MVSR Engineering college.</b>		IN	IN	<b>MVSR Engineering college, Nadergul, Hyderabad, Telangana-501510.</b>	
Dr.P. Suresh, Assistant Professor/ Department of Mathematics, <b>Chaitanya Bharathi Institute of Technology (A).</b>		IN	IN	<b>Chaitanya Bharathi Institute of Technology (A), Gandipet, Hyderabad, Telangana-500075.</b>	
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Ponneyboina Manjula, Assistant Professor/ Department of H&S, <b>Sri Indu College of Engineering &amp; Technology (Autonomous).</b>		IN	IN	<b>Sri Indu College of Engineering &amp; Technology (Autonomous), Ibrahimpatnam, R.R. District, Telangana-501510.</b>	
Dr.A.Mythreye, Associate Professor/ Department of H&S, <b>Stanley College of Engineering and Technology for Women.</b>		IN	IN	<b>Stanley College of Engineering and Technology for Women, Abids, Hyderabad, Telangana-500001.</b>	
Dr. P. Srilatha, Associate Professor /Department of Mathematics, <b>Institute of Aeronautical Engineering.</b>		IN	IN	<b>Institute of Aeronautical Engineering, Hyderabad, Dundigal Road, Telangana-500043.</b>	

<b>Dr. G. Rami Reddy, Professor/ Department of Mathematics, Malla Reddy Engineering College (A).</b>	IN	IN	<b>Malla Reddy Engineering College (A), Maisammaguda, Dhulapally, Telangana-500100.</b>
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**3B. CATEGORY OF APPLICANT [Please tick (√) at the appropriate category]**

Natural Person (√)	Other than Natural Person		
	Small Entity ( )	Start up ( )	Others ( )

**4. INVENTOR (S)[Please tick (√) at the appropriate category]**

Are all the inventor(s) same as the applicant(s) named above?	Yes (√)	NO ( )
If “No”, furnish the details of the inventor(s)		

Name	Nationality	Country of Residence	Address
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**5. TITLE OF THE INVENTION**

**Structural and Fluid Dynamics Boundary Value Limitations Approximated  
Solution in Engineering Applications**

**6. AUTHORISED REGISTERED PATENT  
AGENT(S)**

IN/PA No.	<b>3637</b>
Name	<b>Saurabh Kumar Jain</b>
Mobile No.	<b>9806186045</b>

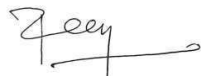
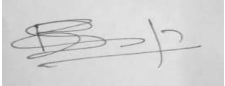
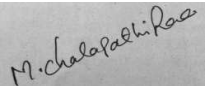
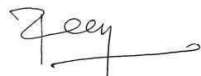
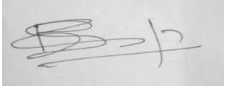
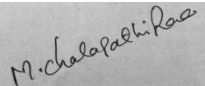
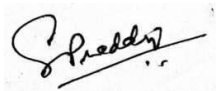
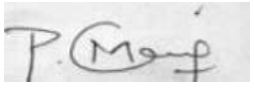
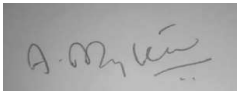
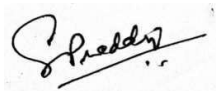
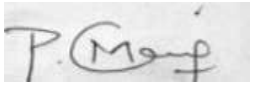
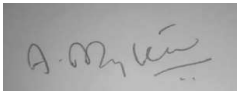

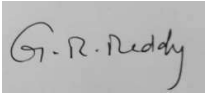

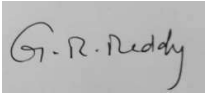
**7. ADDRESS FOR SERVICE OF  
APPLICANT IN INDIA**

**Dr. K. Ramesh Babu, Assistant Professor/  
Department of H&S, MVSR Engineering college,  
Nadargul, Hyderabad, Telangana-501510.**

**Mobile No : 9949987763  
E-mail : rameshbabu\_sh@mvsrec.edu.in**

**8. IN CASE OF APPLICATION CLAIMING PRIORITY OF APPLICATION FILED IN  
CONVENTION COUNTRY, PARTICULARS OF CONVENTION APPLICATION**

Country	Application	Filing	Name of	Title of the invention	IPC (as classified in the
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	Number	date	the applicant		convention country)
-NA-	-NA-	-NA-	-NA-	-NA-	-NA-
<b>9. IN CASE OF PCT NATIONAL PHASE APPLICATION, PARTICULARS OF INTERNATIONAL APPLICATION FILED UNDER PATENT CO-OPERATION TREATY (PCT)</b>					
International application number			International filing date		
-NA-			-NA-		
<b>10. IN CASE OF DIVISIONAL APPLICATION FILED UNDER SECTION 16, PARTICULARS OF ORIGINAL (FIRST) APPLICATION</b>					
Original (first) application No			Date of filing of original (first) application		
-NA-			-NA-		
<b>11. IN CASE OF PATENT OF ADDITION FILED UNDER SECTION 54, PARTICULARS OF MAIN APPLICATION OR PATENT</b>					
Main application/patent No.			Date of filing of main application		
-NA-			-NA-		
<b>12. DECLARATIONS:</b>					
<b>(i) Declaration by inventor (s)</b>					
<p><b>(In case the applicant is an assignee:</b> the inventor(s) may sign herein below or the applicant may upload the assignment or enclose the assignment with this application for patent or send the assignment by post/electronic transmission duly authenticated within the prescribed period).</p> <p>I/We, the above-named inventor(s) is/are the true &amp; first inventor(s) for this Invention and declare that the applicant(s) herein is/are my/our assignee or legal representative.</p>					
(a) Date:					
(b) Signature:					
(c) Name:	<b>Dr. K. Ramesh Babu</b>	<b>Dr. P. Suresh</b>	<b>M. Chalapathi Rao</b>		
a) Date:					
b) Signature:					
c) Name:	<b>S. Praveen Kumar</b>	<b>Ponneyboina Manjula</b>	<b>Dr. A. Mythreye</b>		
a) Date:					
b) Signature:					
c) Name:	<b>Dr. P. Srilatha</b>	<b>Dr. G. Rami Reddy</b>			

**(ii) Declaration by the applicant(s) in the convention country**

**(In case the applicant in India is different than the applicant in the convention country:** the applicant in the convention country may sign herein below or applicant in India may upload the assignment from the applicant in the convention country or enclose the said assignment with this application for patent or send the assignment by post/electronic transmission duly authenticated within the prescribed period)

I/We, the applicant(s) in the convention country declare that the applicant(s) herein is/are my/our assignee or legal representative.

(a) Date

(b) Signature(s) -----NA-----

(c) Name(s) of the signatory

**(ii) Declaration by the applicant:**

**I/We, the applicant hereby declares that:-**

- I am/we are in possession of the above-mentioned invention
- The ~~provisional~~/complete specification relating to the invention is filed with this application.
- ~~The invention as disclosed in the specification uses the biological material from India and the necessary permission from the competent authority shall be submitted by me/us before the grant of patent to me/us.~~
- There is no lawful ground of objection to the grant of the patent to me/us.
- I am/we are the true & first inventor(s).
- I am/we are the assignee or legal representative of true & first inventor(s).
- ~~The application or each of the applications, particulars of which are given in Paragraph 8, was the first application in convention country/countries in respect of my/our invention(s).~~
- ~~I/We claim the priority from the above mentioned application(s) filed in convention country/countries and state that no application for protection in respect of the invention had been made in a convention country before that date by me/us or by any person from which I/We derive the title.~~
- ~~My/our application in India is based on international application under Patent Cooperation Treaty (PCT) as mentioned in Paragraph 9.~~
- ~~The application is divided out of my /our application particulars of which is given in Paragraph 10 and pray that this application may be treated as deemed to have been filed on DD/MM/YYYY under section 16 of the Act.~~
- ~~The said invention is an improvement in or modification of the invention particulars of which are given in Paragraph 11.~~

**(d) Following are the attachments with the application:**

(a) Form 2

Item	Detail	Fee	Remark
Complete specification	No. of pages: 10	<b>1,600</b>	
No. of Claim(s)	No. of claims: 3 No. of pages: 1		
Abstract	No. of pages: 1		
Drawings	No. of drawings: 10 No. of Pages: 4		
Priority	No. of Priorities:		

# ~~In case of a complete specification, if the applicant desires to adopt the drawings filed with his provisional specification as the drawings or part of the drawings for the complete specification under rule 13(4), the number of such pages filed with the provisional specification are required to be mentioned here.~~

~~(a) Provisional specification (in conformation with the international application)/as amended before the International Preliminary Examination Authority (IPEA), as applicable (2 copies).~~

~~(b) Sequence listing in electronic form~~

~~(c) Drawings (in conformation with the international application)/as amended before the International Preliminary Examination Authority (IPEA), as applicable (2 copies).~~

~~(d) Priority document(s) or a request to retrieve the priority document(s) from DAS (Digital Access Service) if the applicant had already requested the office of first filing to make the priority document(s) available to DAS.~~

~~(e) Translation of priority document/Specification/International Search Report/International Preliminary Report on Patentability.~~

~~(f) Statement and Undertaking on Form 3~~

~~(g) Declaration of Inventorship on Form 5~~

Total fee Rs. in Cash/ Banker's Cheque /Bank Draft bearing No..... date.....on  
Bank

We hereby declare that to the best of my/our knowledge, information and belief the fact and matters slated herein are correct and I/We request that a patent may be granted to me/us for the said invention.

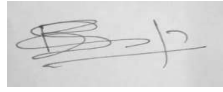


Dated this 09<sup>th</sup> day of August, 2021.

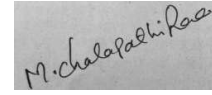
Signature:



Name: **Dr. K. Ramesh Babu**

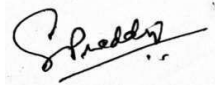


**Dr.P. Suresh**

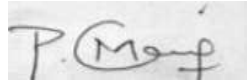


**M. Chalapathi Rao**

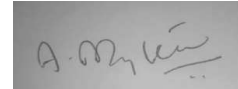
Signature:



Name: **S. Praveen Kumar**



**Ponneyboina Manjula**

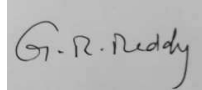


**Dr.A.Mythreye**

Signature:



Name: **Dr. P. Srilatha**



**Dr. G. Rami Reddy**

(Applicant's)

To,

The Controller of Patents

The Patent Office, at Chennai.