SCIENTIST OF THE MONTH:

ELI WHITNEY :

Eli Whitney was the inventor of the cotton gin and a pioneer in the mass production of cotton. Whitney was born in Westborough, Massachusetts on December 8, 1765, and died on January 8, 1825. He graduated from Yale College in 1792. By April 1793, Whitney had designed and constructed the cotton gin, a machine that automated the separation of cottonseed from the short-staple cotton fiber.

ADVANTAGES OF ELI WHITNEY'S COTTON GIN:

Eli Whitney's invention of the cotton gin revolutionized the cotton industry in the United States.Prior to his invention, farming cotton required hundreds of man-hours to separate the cottonseed from the raw cotton fibers. Simple seed-removing devices have been around for centuries, however, Eli Whitney's invention automated the seed separation process. His machine could generate up to fifty pounds of cleaned cotton daily, making cotton production profitable for the southern states.

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KITS KKR & KSR INSTITUTE OF TECHNOLOGY & SCIENCES
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MECHANICAL ENGINEERING SOCIETY

DYNAMOS... THE FEW . THE PROUD

A NEWSLETTER OFMECHANICAL ENGINEERING DEPARTMENT

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EDITOR'S VOICE:

The study derives closed-form expressions which relate the helix material and geometric attributes with the forces and moments created upon homogeneous and non-homogeneous temperature fields. The validity of the formulas is verified for completeness purposes with the use of appropriately constructed finite element models.The derived formulas are thereafter exemplarily used to compute the effect of thermal loading in the inner loading state of a single helical layer, axially tensioned cable structure. Thereupon, the bounds of increase or decrease of the cable's inner forces and moments are computed for a range of typically encountered temperature changes.The results highlight the role of temperature changes as unloading and overloading mechanisms, which contribute to the helical construction's fatigue and wear process. The work subsequently derives useful conclusions on the mechanical implications of the temperature field characteristics. More specifically, it provides evidence that the inner forces and moments induced by non-homogenous temperature fields considerably differ from the ones created by homogeneous fields of approximately the same intensity, when the helix angle of the construction diminishes (more predominantly for angles below 70^{o}).

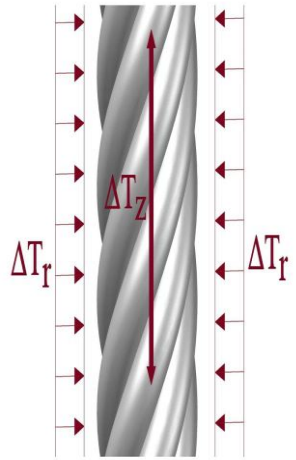

Fig. 1: Cable structure under non-homogeneous axial and radial thermal loading fields.

Analytical closed-form expressions for the structural response of helical constructions to thermal loads.

Contents

N. Venkata Sai Ram
Assistant Professor

STUDENT ACTIVITIES:

The department of mechanical engineering had a reason to celebrate after the declaration of JNTUK university revaluation exam results. Heartly congratulations to all the toppers of III &II years whose performance is top notch. The effort and dedication of these students bagged ample of praise and applaud not only for the department of mechanical engineering but also to the entire institution. Let this considered as a source of inspiration to the entire students of the department who made things next to impossible come true. A big thumps up to all the faculty members who guided the students in the righteous path for such a "TITANIC" success.

III YEAR TOPPERS:

S.NO	ROLL.NO	NAME	%
1	13JR1A0319	DESU SAIRAM	76.13
2	13JR1A0324	GADIPARTHI SRIKANTH	75.61
3	13JR1A0305	YALAMANCHALI HARANI	74.84
4	13JR1A0304	SHAIK NAGINA SULTANA	73.81
5	13JR1A0318	DASARI PRASSANA KUMAR	71.23

II YEAR TOPPERS:

S.NO	ROLL.NO	NAME	%
1	14JR1A0368	PATIBANDLA KALYAN RAM	85.10
2	14JR1A0367	PATHAN ASLAM KHAN	84.28
3	15JR5A0310	KOULURI KHALEED	83.45
4	14JR1A0375	PUVVADA RAMANJANEYULU	81.10
5	14JR1A03A3	YECHURI SAI AKHIL KUMAR	80.83

DEPARTMENTAL ACTIVITIES:

- With a mean of adding the flavor of advancement to theoretical methods department took a initiative step by purchasing CNC Trainer Lathe: MTAB Make: XLTURN with tooling package and work bench, Worth: 6,50,000/-.
- Followed by that conducted a three day training programme on XLTURN CNC machine operation & functioning for the following faculty (Mr..N.V.SAIRAM,Mr.S.RAJU, Mr.J.KOTESWARA RAO& Mr.A.SRINU lab technician) ,Dated on :18/10/16-20/10/16.

- Organized a workshop on Autodesk Fusion 360 involving fourth year students held on 20/10/2016.
- Inculcating the design standards & elaborating prior role of designing in the trending market, being the main motive behind this workshop.

- Mr. V.Srikumar, Mr. N.V. SaiRam, Mr. K. Giri Babu & Mr. M. Sai Chandrasekhar had attended a One week Faculty Development Programme on "Finite Element Analysis by Using ANSYS Software" at KHIT, Guntur from 24/10/16 to 29/10/16.