

SINGLE-SPAN BEAM ANALYSIS

Version 2.3

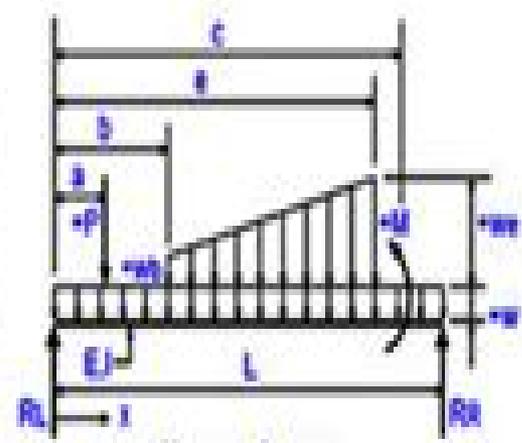
For Simple, Propped, Fixed, or Cantilever Beams

Job Name:		Subject:	
Job Number:		Originator:	Checker:

Input Data:

Beam Data:

Span Type?	Simple
Span, L =	20.0000 ft.
Modulus, E =	29000 ksi
Inertia, I =	391.00 in. ⁴



Nomenclature

Beam Loadings:

Full Uniform:

w = 0.0500 kips/ft.

Distributed:	Start		End	
	b (ft.)	w ₀ (kips/ft.)	b (ft.)	w ₀ (kips/ft.)
#1				
#2				
#3				
#4				
#5				
#6				
#7				
#8				

Results:

Reactions:

R ₁ =	10.50 k	R ₂ =	10.50 k
M ₁ =	N.A.	M ₂ =	N.A.

Maximum Moments:

+M(max) =	102.50 ft-k	@ x =	10.00 ft.
-M(max) =	0.00 ft-k	@ x =	0.00 ft.

Maximum Deflections:

-Δ(max) =	-0.524 in.	@ x =	10.00 ft.
+Δ(max) =	0.000 in.	@ x =	0.00 ft.
Δ(rate) =	1/458		

Shear Diagram

Point Loads:

#	b (ft.)	P (kips)
#1	10.0000	20.00

Caution: User should make sure to **Clear Contents** of all input cells not being used.

Steel Beam:

Size	W12x50
I _x =	391.00 in. ⁴
I _y =	56.30 in. ⁴

User Designated Points:

x1 =	0.0000 ft.
x2 =	0.0000 ft.

Results for User Designated Points:

For x1:

V _{x1} =	10.50	kips
M _{x1} =	0.00	ft-kips
θ _{x1} =	-0.3759	deg.
Δ _{x1} =	0.0000	in.

For x2:

V _{x2} =	10.50	kips
M _{x2} =	0.00	ft-kips
θ _{x2} =	-0.3759	deg.
Δ _{x2} =	0.0000	in.

Structural Analysis Excel Programs

Jin-Ying Zhang



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Sugden, 2011-10-04 This e book is devoted to the use of spreadsheets in the service of education in a broad spectrum of disciplines science mathematics engineering business and general education The effort is aimed at collecting the works of prominent researchers and

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Improving Bridge Rating and Truck Permitting Procedures Through Finite Element Analysis D. S. McIlrath,2000 Architectural Program Report, June 1997 University of California, Berkeley. Department of Architecture,1997 Applied Mechanics, Materials and Manufacturing Da Yun Xu,2013-08-30 Selected peer reviewed papers from the 2013 International Conference on Applied Mechanics Materials and Manufacturing AMMM 2013 August 17 18 2013 Hong Kong China **Ships and Offshore Structures XIX** Carlos Guedes Soares,Y. Garbatov,2015-09-03 This three volume work presents the proceedings from the 19th International Ship and Offshore Structures Congress held in Cascais Portugal on 7th to 10th September 2015 The International Ship and Offshore Structures Congress ISSC is a forum for the exchange of information by experts undertaking and applying marine structural research The aim of **Bridge Design & Engineering** ,2001 Macworld ,1995 **A Directory of Computer Software Applications** ,1979 *Computer-assisted Structure Elucidation* Neil A. B. Gray,1986 Drawing on a wide range of recent research this book introduces the most important new algorithms for solving problems in structural chemistry It is a review of problems related to the representation and manipulation of chemical data illustrated with various approaches to their solutions *The Software Encyclopedia 2001* ,2001 Statistical Data Analysis Using Your Personal Computer Ira H. Bernstein,Nancy A. Rowe,2001-05-08 What should you see when you re analyzing real data using one of the major statistical packages such as SPSS SAS or Microsoft Excel This book will show you and will walk you through the output from a variety of statistical outcomes such as data reflecting a single common factor Through the use of actual demonstrations the authors supply readers with the computer programs necessary to simulate data sets with the statistical properties that are often assumed of real data Throughout the book the authors provide the reader with helpful guides such as Hint boxes to give readers tips for executing particular techniques using the statistical software packages Steps that show each stage of a procedure such as importing an Excel file into SAS Problems end each chapter so the reader can practice the techniques described Web Site with the SAS and SPSS programs and sample data **Structures Under Shock and Impact** ,1996

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