

Title (en)  
STRESS CALCULATIONS FOR SUCKER ROD PUMPING SYSTEMS

Title (de)  
SPANNUNGSBERECHNUNGEN FÜR SAUGSTANGEN-PUMPENSYSTEME

Title (fr)  
CALCULS DE CONTRAINTE POUR DES SYSTÈMES DE POMPAGE À TIGE DE POMPAGE

Publication  
**EP 2963234 A1 20160106 (EN)**

Application  
**EP 15174273 A 20150629**

Priority  
US 201462019742 P 20140701

Abstract (en)  
Techniques and apparatus are provided for stress calculations for sucker rod pumping systems. A method is provided for determining stress along a sucker rod string disposed in a wellbore. The method generally includes receiving, at a processor, measured rod displacement and rod load data for the sucker rod string, wherein the sucker rod string comprises a plurality of sections; and calculating stress values at a plurality of finite difference nodes for at least one of the plurality of sections based, at least in part, on the measured rod displacement and rod load data.

IPC 8 full level  
**E21B 43/12** (2006.01); **E21B 47/00** (2012.01)

CPC (source: EP US)  
**E21B 43/127** (2013.01 - EP US); **E21B 47/009** (2020.05 - EP US)

Citation (search report)  
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• [A] WO 2010051270 A1 20100506 - LUFKIN IND INC [US]  
• [XI] T.A. EVERITT ET AL: "An Improved Finite-Difference Calculation of Downhole Dynamometer Cards for Sucker-Rod Pumps", SPE PRODUCTION ENGINEERING, vol. 7, no. 01, February 1992 (1992-02-01), pages 121 - 127, XP055217402, ISSN: 0885-9221, DOI: 10.2118/18189-PA

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CN113027387A; CN106437682A; CN109538190A; CN116976025A; US11619225B2; WO2018026706A1

Designated contracting state (EPC)  
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