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## Engineering consequences of recent discovery of gravitational waves

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Man has been always curious in knowing about Earth and Universe around. The first success in scientific understanding was provided by Newton in 17th century with an understanding of gravity that was limited for forces between objects: E.g., Sun and Earth or simply an Apple falling on earth. Einstein a century ago; introduced gravitational waves that communicate information between two colliding objects through space-time; problem of action at a distance. However they were elusive for measurement until recently. It is only recently on 15<sup>th</sup> September 2015 their measurement was achieved and announced on 11<sup>th</sup> February 2016; Two Laser Interferometry Gravitational Observatories (LIGO) built in USA, measured this minutely small value of  $10^{-22}$  that has the accuracy of measurement of a hundred of the diameter of a proton in an atom. We will first explain this measurement. Several phenomena that happened on earth e.g., Pangea broke and drifted from the South Pole, the force behind their movement is not properly understood. Gravitational waves seem to provide the answer. The earth has also seen alternate chills and global warming. This paper provides an FE model of earth and the rise in temperature that occurs over long periods. Yet another unexplained phenomenon is the tectonic plate movement, e.g., Gondwana land traveling over 50 million years pushing the Eurasian plate and forming Himalayan ranges. The earthquakes attributed here due to the plate movement can be also attributed to gravitational waves. An approach for crack propagation due to this northward plate movement is also presented.

### Biography

Srinivasa Rao Jammi has completed his PhD and DSc from IIT Kharagpur and Postdoctoral studies from University of Surrey. He is the President of The Vibration Institute of India, a premier institute promoting worldwide academic and industrial research. He has published more than 170 papers in reputed journals and 275 in conferences worldwide. He is the Chief Editor of International Journal of Vibration Engineering and Technology and has been serving as an Editorial Board Member of several reputed journals. He is a Consultant for over 30 industries worldwide, received over 30 awards, written over 20 books and Member of several societies.

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