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The Theory of Travelling Deformation Waves and Its Applications in Biomechanics, Engineering, and Geophysics

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The theory of travelling deformation waves and its applications in biomechanics, engineering, and geophysics A.I. Dobrolyubov United Institute of Information Problem, Surganov st. 6, Minsk, 220012, Belarus, dobr@newman.bas-net.by Our theoretical and experimental researches of the travelling waves of deformation in solid, liquid, and gaseous bodies have resulted in an establishment of some unknown before wave phenomena and effects. It was established, that running waves of deformation play an important role both in living organisms and in inanimate nature and act in various physical matter in micro- and macrocosm. The created theory of travelling waves of deformation and wave masstransfer has allowed to receive new scientific results and to make inventions in such areas as theoretical mechanics, the theory of mechanisms and machines, biomechanics and medicine, the Earth sciences. These results were recognized as fundamental by various experts in our republic and abroad. Our results on a competitive basis were awarded with grants of Fund of basic researches of Belarus, the American Physical Society, the International Soros scientific fund.

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