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**Einstein's concept of space as energy field, or dark matter as property of space** JACQUES LEIBOVITZ, retired — Einstein insisted that there is no empty space, that there is no space without a field. He stated also [1921, Stafford Little Lectures at Princeton] that "besides the energy density of the matter there must also be given an energy density of the gravitational field, ..." There follows that it is a field of corresponding equivalent distributed mass density. Space is also elastic and compressible. From these three properties, an equation of state is derived, followed by the derivation of an equation governing the distribution of space mass density around galaxies, the galactic flat rotation curve, and Milgrom's equation for the motion of galaxies in clusters and super clusters. The results suggest that space may be the heretofore-elusive dark matter. The distribution of space density around the Sun is derived. It shows that NASA's Pioneer anomaly (Anderson J. D. et al., Phys. Rev. D, **65**, 082004) extends to about 188 AU from the Sun. Beyond 188 AU, the anomaly decreases as $R$ increases and, at sufficiently large distance, decreases as $1/R$. Verifiable tests are proposed. Some related future research topics are listed.

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