

Abstract Submitted
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Shedding light on dark matter JAMES BEICHLER, West Virginia University at Parkersburg — Nearly three decades ago, a physical anomaly was discovered that should have shaken physics to its very foundations. That anomaly, called the galaxy rotation problem, resulted from the difference between the expected velocities of material objects in the disk portion of galaxies and their observed velocities. To explain this anomaly, the concept of Cold Dark Matter (CDM) was invoked. Alternative explanations such as MODified Newtonian Dynamics (MOND) have been proposed, but altering the basis of Newtonian physics by adding a fudge factor to the laws of motion is aesthetically displeasing as well as completely unnecessary. The dark matter halo that surrounds spiral galaxies can be easily explained if scientists are willing to accept the physical reality of a fourth dimension of space, which amounts to a fifth dimension of space-time. This solution may seem radical, but there is ample evidence in other areas of physics to support the existence of a fourth spatial dimension. What is commonly called dark matter is no more nor less than space-time curvature that is not associated with local matter, but is due instead to the total or global curvature of the universe as a whole.

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