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## Cosmic Structure and the Nature of Dark Matter

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Nonlinear cosmic structure grew through gravity acting on small fluctuations that emerged from the early universe and are observed directly in the microwave background radiation. It thus depends on the law of gravity, on the nature of the gravitating matter and on the process that generated the initial fluctuations. Weakly interacting dark matter appears to dominate the material content of the Universe at all observable times. Nonlinear structure formation on both very large and very small scales is affected by the particle physics of dark matter, and determines its detectability through annihilation radiation. It is very difficult to account for the full range of phenomena in which Dark Matter appears to play a dominant role through a modification of the Law of Gravity.

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