WSU PHYSICS SEMINAR

The dark side of galaxy formation

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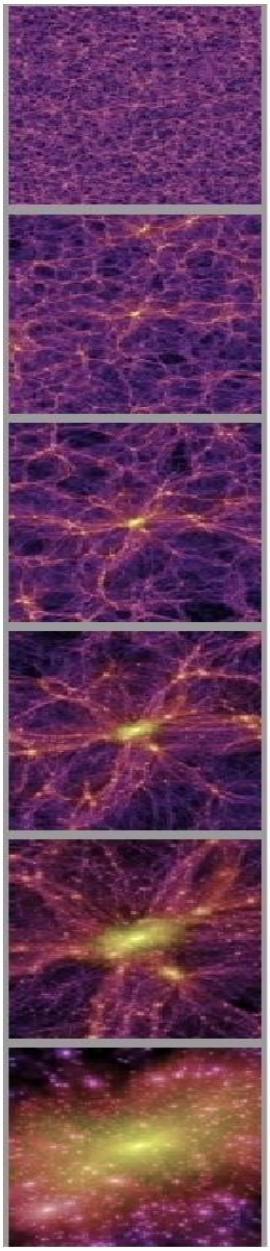

Understanding the formation and evolution of galaxies is one of the most active and exciting fields today. It requires theoretical, numerical and observational efforts. The current picture is that we live in a smooth **expanding universe** filled with dark matter, dark energy and *very little regular matter* (only 4%). The **dark energy** drives the expansion, while **dark matter** dominates the formation of galaxies. In this talk, I will concentrate on three issues: (1) how dark matter clumps (**haloes**) are observed, (2) how they are simulated with super-computers, and (3) how they may be understood theoretically by using a model with **random walks**. This problem is a fine example of how discovery is achieved by different scientific approaches.