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COMPARISON BETWEEN CHAPLYGIN GAS AND BULK VISCOUS COSMOLOGICAL MODELS

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Most of the matter in the universe is thought to be a form of dark energy, which makes up about 70% of all matter in the universe, 25% of dark matter, and 5% of ordinary matter such as planets and stars. Since it was discovered around 1998, researchers have been trying to determine the nature of this dark energy. Despite many efforts, there is still no good explanation for this. Two possible candidates for dark energy are Chaplygin gas and bulk viscosity. These two proposed formats have many similarities. This work explores the relationship between them, showing that although they have different physical interpretations, they are in some ways mathematically equivalent.

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