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Does the Penrose Suggestion as to Black Holes from a Prior Universe Showing Up in Today's Universe Have Credibility? Examined from a Singular, and Nonsingular Beginning of Cosmological Expansion

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We examine if there are grounds to entertain the Penrose suggestion as to black holes from a prior cycle of creation appearing in the present cosmos. There are two cases to consider. One a singular start to the Universe or as Karen Freeze and others have modeled a non-singular start. The two cases are different and touch upon the limits of validity of the Penrose singularity theorem. We will first of all state the two cases, singular and nonsingular, and then afterwards, briefly allude to the Penrose singularity theorem. The plausibility of the singular cosmological expansion start point w case analysis of Black holes from a prior universe will be discussed first Afterwards, a synopsis of the Penrose singularity theorem. After that, the Nonsingular start to the expansion of the Universe will be entertained and described. Since the nonsingular start of the expansion of the Universe is not so well known, a considerable amount of space will be spent upon what I view as mathematical constructions allowing for its analysis. About the only way to ascertain these cases will be by GW astronomy, hence the details of GW production from the early Universe will be covered in excruciating detail. The methodology for that section is simple. Use a construction for a minimal time-step, then from there get emergent space-time conditions for a bridge from a nonsingular start to the universe, to potential Quantum gravity conditions. Our Methodology is to construct using a “trivial” solution to massive gravitons, and a nonsingular start for expansion of the universe. Our methodology has many consequences, not the least is a relationship between a small timestep, which is called t , and then the minimum scale factor and even the tension or property values of the initial space-time wall, .

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