

Abstract Submitted
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Pauli mechanism for universal expansion. ROBERT HAYES, North Carolina State University, Nuclear Engineering Department — By assuming the cosmological principle includes the Pauli exclusion principle (PEP) and that existence occurred post big bang within Planck time and length scales, a model for universal expansion can be argued. All Fermionic matter is forced by the PEP to make a quantum transition to minimally orthogonal states scaling with that predicted for a neutron star (NS). This predicts the minimum inflation time scale to be on the order of $1e-44$ s. A coupling of primordial low mass neutrinos to have wavelengths comparable to or greater than the Hubble length is also postulated as a contributor to universal expansion. The model provides a mechanistic explanation for universal expansion using only physics from the standard model. This work supported in part under federal grant NRC-HQ-84-14-G-0059.

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